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December 1991 Issue 43 £2.99

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December 1991 Issue 43

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europress PUBLICATIONS

NEW AMIGA A500P JUST IN!







AMIGA COMPUTING

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For more than three years *Amiga Computing* has been the leading magazine for Amiga enthusiasts. As a key member of the Europress magazine group, *Amiga Computing* promises to inform, educate and entertain its readers each month with the most dedicated coverage of the Amiga available.

Amiga Computing • Atari ST User • PC Today
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SPECIALS



COVER FEATURE

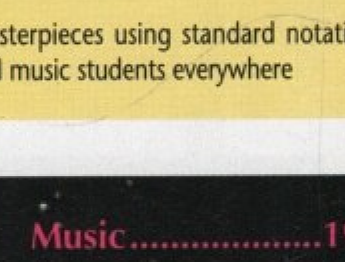
HARD FA

Take a peek at AC's Christmas shopping list

NEW

THE COVERDISK

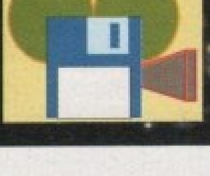
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Was it that shifty old port-swilling Colonel Mustard, or the suave Miss Scarlett? Only you can solve the murder in Clue!



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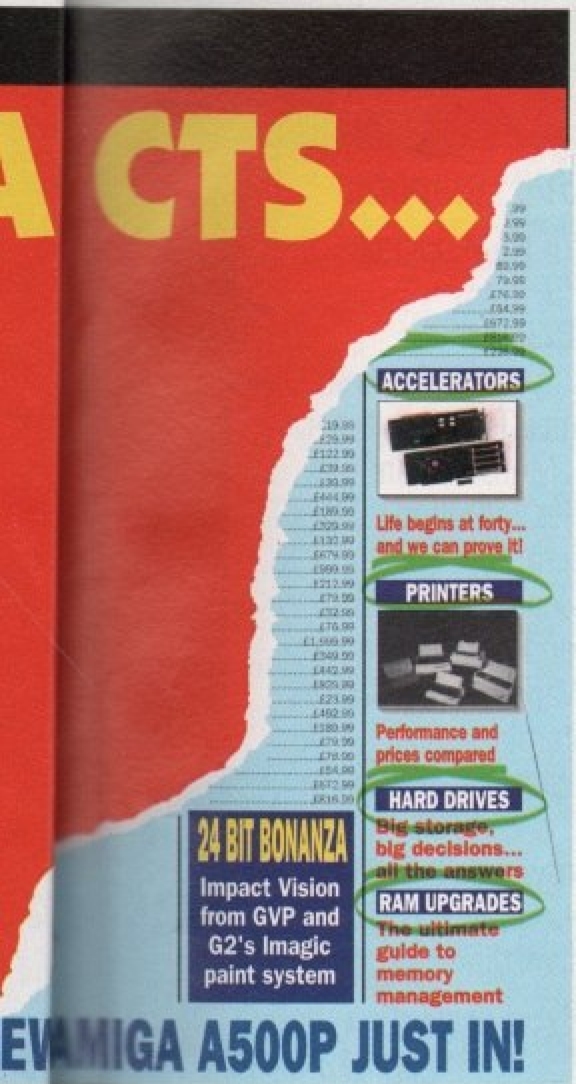


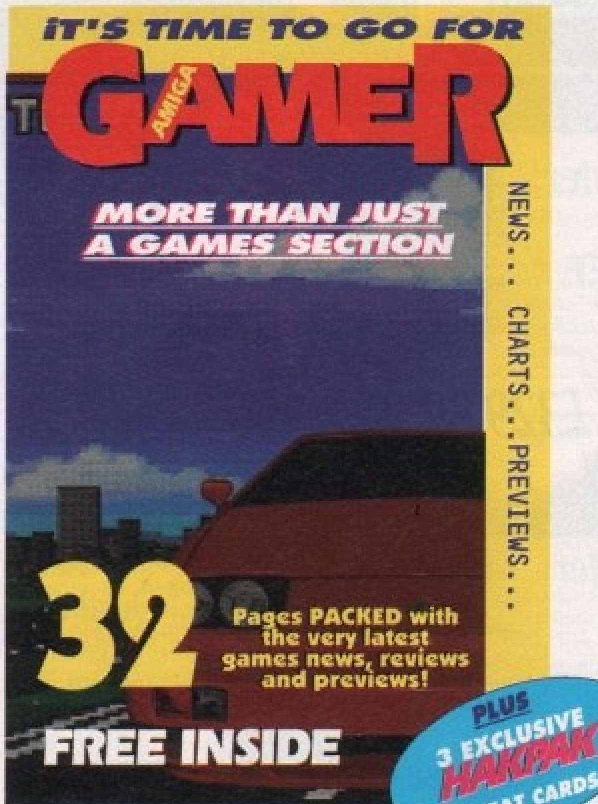




CONTENTS

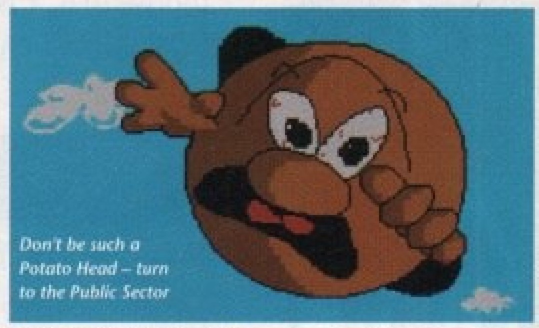






6 GREAT
Subscription offers for new readers
Turn to Page 202

REGULARS



Don't be such a Potato Head – turn to the Public Sector

Grand Grab

The *Amiga Computing* **GRAND GRAB** goes from strength to strength with more **massive** giveaways!

This month we reveal the winners of five Pandaal scanners.

There's also a chance to win one of over thirty top games from Ocean, Soft Stuff education software, or even a superb Philips monitor courtesy of Gordon Harwood.



The number on the cover of this copy of *AC* holds the key! 165

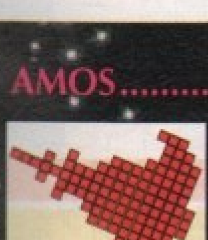
Zut Alors
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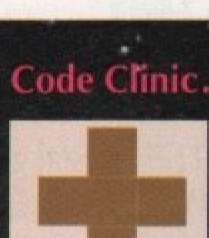
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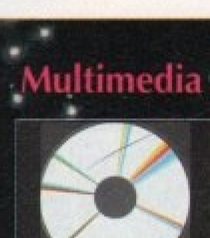
Our resident AMOS guru helps you write that smash hit



Stuck with C? The Code Clinic may have the cure

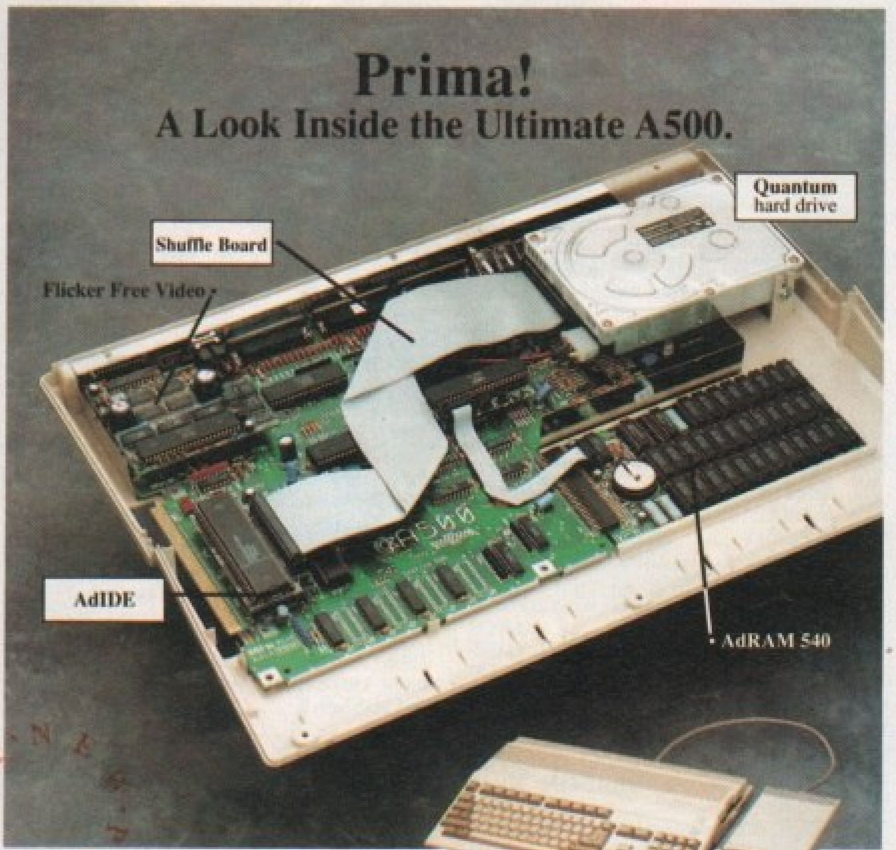


From screen to print – the mysteries of DTP revealed



CDTV & more in the column that makes sense of the latest buzzword

POWER COMPUTING



Prima..the high performance, low cost hard drive for Amiga 500 computers. Prima blends a large capacity, low power Quantum hard drive with the **AdIDE** host adapter for an unbeatable combination.

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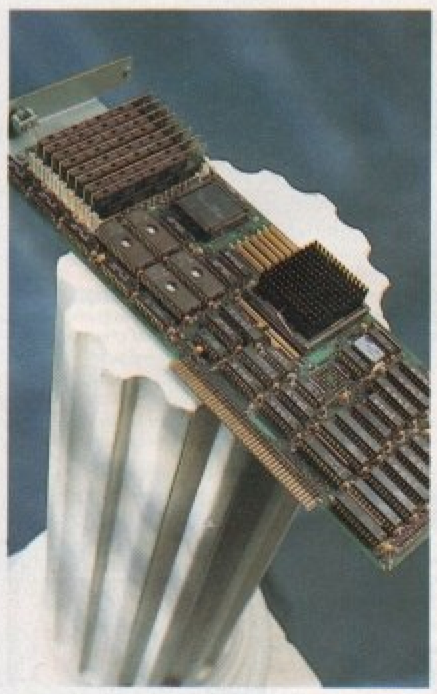


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All prices include VAT, delivery and are subject to change. Specifications are subject to change without notice. Next day delivery £4·50 (U.K. mainland only). Dealer enquiries welcome.

WHAT'S new

Cure promised for A500P problems

John Butters is told that games will be rewritten for the machine



The only external difference between the A500 and A500P is a small badge on the computer's casing. Inside there are various chip changes and one megabyte of memory

INCOMPATIBILITY problems have surfaced with Commodore's latest Amiga just weeks after the computer started early shipping, but UK software houses have pledged to cure difficulties.

Claims that about half of the existing Amiga leisure software base will not run on the A500 Plus have been backed by tests carried out by *Amiga Computing* which have found many games, old and new, incompatible.

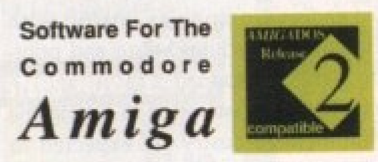
Serious applications are less troublesome but it is too early to list which packages will not load. One shock is that shareware programs not written to Commodore guidelines seem to largely escape the problem.

But Commodore are reluctant to admit that the difficulties exist. Spokesman Andrew Ball says that developers were sent details of the firm's plans more than a year ago and have had sufficient time to write software to guidelines. He says that while there could be problems with public domain software that is not written to Commodore's rule book, commercial packages should be 99 per cent trouble-free.

Games houses are holding their hands up and taking the blame, saying that as soon as they receive models of the computer all Amiga products will be made compatible. Domark's latest flight shoot-'em-up Super MiG-29 Fulcrum is just one program unable to run on the machine.

A spokesman confirmed that Commodore had sent notes advising of new programming rules but said they were unable to implement them because a machine was not available for testing software.

However, the firm said that they were unaware of the problem and added that it would not take long to revise. Domark say Commodore are better than most manufacturers in giving details of planned changes. Gremlin Graphics said the reason for the problems with their latest programs was that while new guidelines were sent from Commodore they were unaware of the Kickstart ROM being replaced. Gremlin's production manager told us: "Everybody will sort it out – it won't be a big problem."



Already firms are labelling their products as compatible with the computer. ASDG's Art Department Professional is one such package

Some software is already selling with A500P-compatible stickers on its packaging. Ocean's latest hit, Terminator 2 – Judgement Day, is just one and other products are labelled with green diamonds to indicate AmigaDOS 2 compatibility.

The only external difference between the A500P and the normal A500 is a badge on the keyboard casing naming the computer as a Commodore A500 Plus, and a small Commodore logo. The packaging also lists the new machine by name.

Inside it has one megabyte of memory on its motherboar and the enhanced chip set, and is supplied with a copy of the latest operating system, Workbench 2. Kickstart v2.04 is included on ROM. Along with the Super Agnes chip this is believed to be the cause of the problems. Above–forecast sales of the Cartoon Classics pack led to standard A500 shortages and a surprise early release for the Plus, say Commodore. The official on-sale date remains as "after Christmas", for the computer, which sells in the United States as the A500 Professional.

One industry expert commented: "It's inevitable that this type of thing happens when a machine is updated. Commodore have to make changes to keep the Amiga up to date in this fast-moving market."

Super A3000 to have CD

A COMMODORE insider has revealed that the giant plan to include a CD-ROM drive in their new A3000 being developed in the States.

The firm have already confirmed exclusive *Amiga Computing* reports that the computer is to have the faster 68040 processor chip by the end of next year.

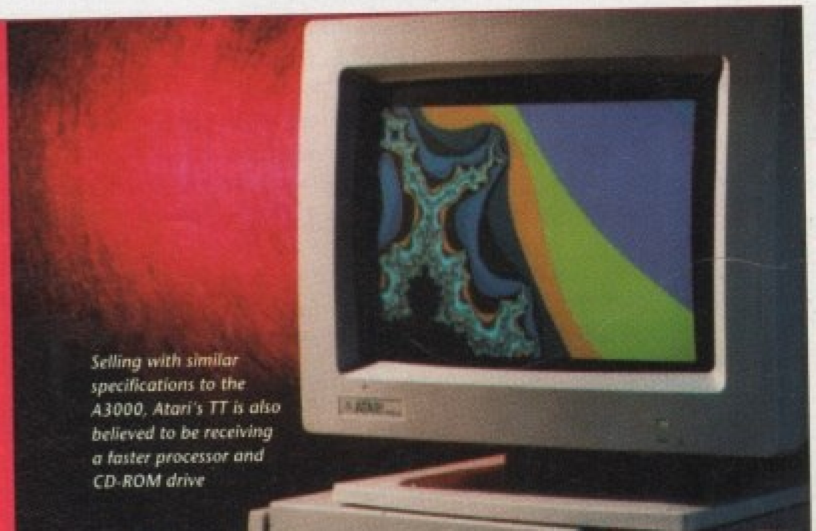
It will make the computer up to five times faster than the existing machine and the information received this month adds to growing speculation that the top-end Amiga could be renamed, possibly as the A4000.

The company are about to release an add-on CD-ROM drive for their A500 but it will not fit to other computers in the range. Since an increasing amount of software is being released on CD, the A3000 will soon need a CD-ROM option.

The new specifications rumoured for the machine match those planned by Atari for their TT computer – the nearest competitor for the A3000. Atari's Falcon will also have a 68040 chip and a CD-ROM drive.

In the USA, the A3000 is outselling the A2000, with 15 per cent of machines being employed for presentation creation. Commodore are claiming more than two-thirds share of the professional video computer market.

A Commodore spokesman said he was unaware of a CD-ROM plan for the A3000.


Selling with similar specifications to the A3000, Atari's TT is also believed to be receiving a faster processor and CD-ROM drive

WHAT'S new

Dealers threaten Amiga

THE CHAIRMAN of the independent dealers' body NASCR (National Association of Specialist Computer Retailers) has hit out at Commodore and predicts it could be "Commodore's last Christmas of any know."

Clive Bishop claims the incompatibility snag with the firm's A500P (*see main story, page 9*) is another reason for dealers to drop the Amiga range from their shelves. He has sent a letter to members advising them not to deal with firms that don't give a satisfactory service.

However, Commodore's spokesman Andrew Ball claimed that the incompatibility was greatly exaggerated and said that developers were supplied with full details of the changes 18 to 24 months ago and had been provided with complete versions of Workbench 2 on disk three months ago.

But Bishop complained: "I think it's going to be a frightening, daunting task this Christmas. From a retailer's point of view selling hardware and software, it's heads I win tails you lose. There's no way we can get through this one without major hassle."

But alleged incompatibility is only part of the upset and the situation over the warranty will have the biggest affect on sales he says.

"What can we do with a situation that's already happened? We are totally reliant on our manufacture's support - we haven't had that from Commodore since the end of June. We just get hassles – they've taken an Amstrad approach and we all know where that got Amstrad.

"We are destocking Commodore as fast as is possible and I know other NASCR members are doing very similar. Commodore – this could be their last Christmas of any know. We cannot afford to stock Commodore."

Commodore maintain they are operating a fair dead on arrival policy.

Andrew Ball said: "We have gone a long way to revise the DOA policy.

"Since we decided to change our policy we have spent a lot of time with NASCR revising it. At several points NASCR indicated satisfaction."

Porn crackdown

A 24-year-old man is expected to appear in court soon accused of contravening the Obscene Publications Act at the start of a police blitz on the use of computers for displaying pornographic material.

Greater Manchester Police discovered material at the centre of the case by responding to advertisments in the computer press and once an offending disk was received, joined forces with Wiltshire Police to swoop on a house in Swindon. Disks and an Amiga setup were seized.

"The pictures on the disks are exactly the same as the pictures in magazines – still pictures of a pornographic nature," said a Greater Manchester Police spokesman.

"It's lack of continuity that we're trying to address, making people aware that if you have the stuff on your bulletin board or whatever else you are doing with it, the minute you show it somebody else or sell it you are committing an offence."

Japan has CDTV plans

A consortium formed in Japan aims to promote and plan new titles, including motion pictures, for the CDTV.

Leading companies linking with Commodore include Mitsui and printing giant Dai-Nippon.

Other firms interested in joining the multimedia industry are expected to join the consortium soon, including ASCII.

Commodore's Andrew Ball says the move will establish a Japanese market and strengthen the CDTV's position worldwide.



Commodore managing director (left) and P & P's Colin Budgen (right) signing the deal that will enhance the Amiga's standing in the multimedia market

Multimedia made easier

AMIGA multimedia users are to get the quality care they need to make multimedia decisions, say Commodore. It's all due to a new deal making the UK's largest independent computer supplier the exclusive top-end Amiga distributor.

As Commodore try to grab the growing multimedia market the link with P & P will be backed with an advertising campaign and a training programme for qualifying dealers.

"I am absolutely delighted at this major opportunity for our two companies to pool our experience and work together to ensure that multimedia becomes the reality it deserves to be," said P & P's general manager Patricia Way.

"The Commodore Amiga 3000 with AmigaVision and the CDTV are a cost-effective combination that can make major contributions to any company's effectiveness and productivity."

Building the power

AN OPTICAL drive giving 128 megabytes of storage capacity heads a line-up of new Amiga products due from Power Computing (0234 843388) during the next few months.

Developed for the A2000, it comes as an internal or external drive and enables data to be stored on fully rewriteable 3.5in optical cartridges. Manufactured by computer giant IBM it has a seek rate of 60 milliseconds.

The internal version which fits into the 5.25 drive bay costs £999 and the external model with its own power supply is £1199. Each cartridge costs £36. GVP SCSI interfaces can also be bought for £199.

The second product from the Bedfordshire firm will be the first hand scanner to be priced at under £100. With an auto-setting resolution of up to 400 dots per inch, Power Scanner will support true greyscale and will be built to enable a printer to also be connected to the Amiga. With software, it will cost £99 and goes on sale shortly.

Developers have just started work on a "really cheap" eight megabyte external RAM board with a thru port. The Power RAM Board should be on sale at the beginning of November and while its price still needs to be fixed, indications are that it will sell for £249. A two megabyte version is expected to cost £99.

By January the company's 1.44 megabyte floppy disk drive should be ready for launch. The external device will be switchable between 880K and 1.44 megabytes and its price still needs to be finalised.

And with the release of AmigaDOS 2, Power plan to develop a piece of equipment to enable Amiga users to swap between its operating systems. Owners of Amigas fitted with Kickstart 1.2 and 1.3 will be able to switch to v2 and talks are still being held on whether Workbench 2 will be included on disk.

The product remains untitled although it is pencilled in for an end of November release. "We are working hard at developing new Amiga products," said head of Power Computing Tony Ianiri, "and we've got many more ideas for next year."

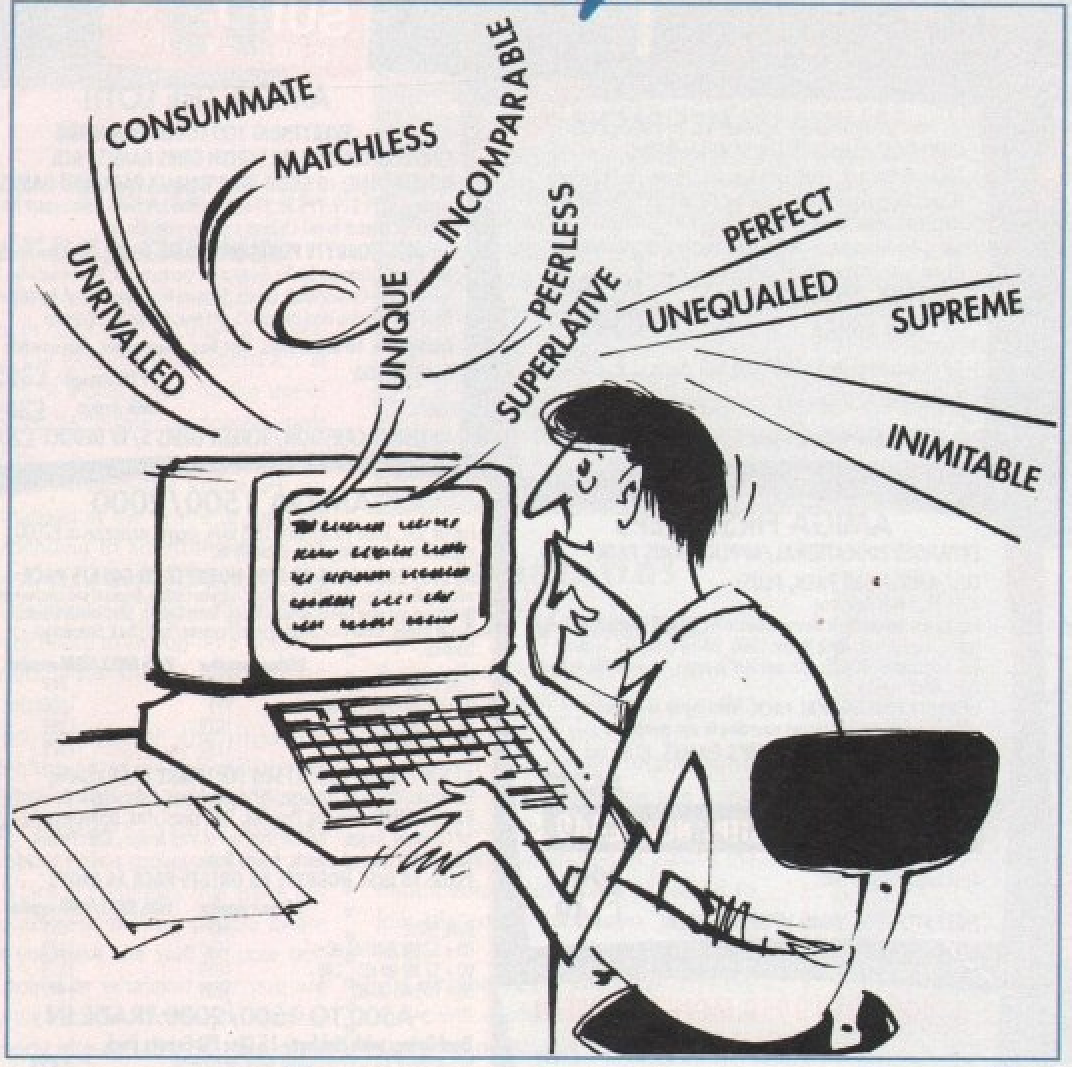
Do you know something we don't?

Although *Amiga Computing* has scores of contacts in the Amiga world we need you. If you have some hot news ring John Butters on the news-desk now on 0625 878888.

All information supplied will be treated in the strictest of confidence.

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WHAT'S new

Measure with video

A MULTI-PURPOSE program has been launched which uses an Amiga and genlock to enable measurements to be taken from most video pictures.

Using a genlock to superimpose the computer's graphics on to a video picture, MicroMeasure takes measurements directly from the screen without the need for digitisers and image analysis software.

Using the mouse to move a pointer over the video picture, the Amiga records the mouse's movement and the measurement is made. These include distances, angles, path lengths, areas and tally counting. Movement can also be studied.

Onscreen calibration gives data in any unit, which can be saved to disk and printed. Time calibration enables time-lapse or slow motion video tapes to be used as the source.

Its uses include studies of animal behaviour, microscopy and cell biology, leaf areas and root lengths in plant sciences and measurements from maps, plans and satellite photographs.

The price is £581.16 but education discounts reduce the cost to as little as £99. Demonstration disks are available from Dr Mike Copland, Department of Biochemistry and Biological Sciences, Wye College, University of London, Wye, Ashford, Kent TN25 5AH.

Landscapes to view

GENESIS The Third Day is a new Amiga package which can be used to generate landscapes using authentic government data or create imaginary scenery via an easy to use interface.

Described as the most advanced fractal landscape generator, the user has control over every aspect of the tool and it supports most 3D modelling and animation programs.

Landscapes can have up to 118,000 points, 236,000 triangles, 1,200 permanent springs and 2,500 lakes. Once created, the fractal world can be viewed from any position or "flown through" with built-in animation features.

Features include control over the fractal dimension, placement of the observer viewpoint anywhere in the 3D space around the landscape, customising of the heights of individual points, five draw modes and adjustable colours.

Pictures are stored as .IFF, lo-res, hi-res and HAM images. Hard disk drives are supported and 24-bit images are soon to be added. Price: £49.95 from the Software Business (0480 496497).



BT axe Micronet

LACK of profit is being given as the reason for recent closure of British Telecom's online Micronet computer magazine.

Before the announcement, BT had stopped signing up new subscribers and sent recommendations that members transfer to the giant CompuServe system, for which they receive free registration.

The service never met expected membership levels despite charges being cut this April in an attempt to keep it afloat. It closed with little more than 11,000 subscribers – well below viable targets.

One of the main features in Micronet was an Amiga section which was updated daily with news, views and reviews from all over the world. Letters could be sent via telephone lines enabling users to debate topics and get help from fellow users. Former Micronet editor-in-chief Paul Needs simply offered: "It's the end of a dream."

Star price cuts

CONFIDENCE in the economy has led to immediate price falls for printer giant Star's range of 24-pin models.

The LC24 line sees prices drop by up to £20 and the company have also slashed the cost of their four page per minute laser printers.

"We are now seeing a significant increase in sales following the summer lull as businesses become more confident in the economy," explained Star's Roger Bayley. "The improvements in the price/performance ratios will only help increase demand for these models in preference."

Beginners get help

BEGINNERS interested in learning more about the Amiga are set to benefit from a new training scheme announced by a new High Wycombe-based firm.

JJC (0494 883347) with more than 12 years, experience in the market are to launch a series of 12 disks containing information about the computer.

The one disk per month course will take subscribers from the basics through software, hardware and design, and give hints and tips. Regular features will include a glossary of computer terms, questions and answers and software training.

"There are hundreds and hundreds of companies offering PC and Macintosh training but none for the Amiga," said JJC boss John Thompson. "We have been in the Commodore market for some time and we feel that Amiga users often just play games without realising the machine's full potential."

Individual disks can be bought for £5. A one-year rolling course costs £50.

Capital link for Shopper

VISITORS to the Christmas Computer Shopper Show will have the chance of winning one of four flights in Capital FM's Flying Eye plane during its traffic monitoring duties.

The London radio station have linked with show organiser Blenheim Pel (081-868 4466) to support its Share a Capital Christmas Appeal, which will provide toys and food during the festive season for underprivileged families.

Capital FM will ask people to take along gifts for the appeal, and in return they will receive a raffle ticket for the daily draw. Top Amiga firms promising to attend the event include HiSoft, Evesham Micros, Roland, Power Computing and Silica Systems.

People will also have the chance to try their hand at being a DJ in a special studio being built within the show to be manned by Capital FM personalities. While there will be no live broadcasts, people who have a go will be able to take away a tape of their attempt.

"This is an ideal opportunity for us to help make it a brighter Christmas for youngsters who are supported by Capital's annual appeal", said Blenheim's Stephen Bozdan. "Flying over London's skyline will be a tremendous experience for the four winners."

The show will be held at Wembley Exhibition Halls from Thursday December 5 to Sunday December 8.



Four Shopper Show visitors will be going for a flight in the Flying Eye

Features added to RocGen

THE successor to the best selling RocGen genlock is due for imminent release from Silica Systems (081-309 1111).

In addition to the earlier product, RocGen Plus supports RGB and video through, keying, optional Chroma key, keyhole effects, improved styling and far better genlocking quality.

It supports higher image mixing quality than its predecessor, with internal circuits modified to give higher tolerance levels. Better quality components have also been used to improve performance.

The ability to key a colour and specify it means chosen colours can be replaced with the genlock signal – similar to the facilities used by television production teams producing weather forecast bulletins, where the presenter's clothing is "invisible".

"RocGen Plus now matches genlocks costing several times more in terms of quality and image stability," says Silica's Andy Leaning.

Price £149.95.

WHAT'S new

Art files go on T-shirts

AMIGA artists can have their work printed onto T-Shirts by expanding Studio 101 (0827 280884), a company which recently started supporting the computer by offering a laser printing service.

Company boss Robin Sanders says that the new line of work started as a result of the Silicon Picture Company pulling out of the Amiga market to concentrate on IBM PC and Apple Macintosh files.

They charge £17.49 for the printing and accept up to A3-sized files in portrait mode from most Amiga paint packs. Another avenue being explored at Studio 101 is the transfer of files to transparencies for overhead projection. This service costs £6.

Animal magic

DUE for release soon are two RealThings Animation packages containing game reserve animals and a collection of ocean creatures.

Developers RGB Studios sought help from two relevant authorities when designing the packages, which can be run in Deluxe Paint III or IV and other programs supporting animbrushes.

For Safari, wildlife film makers Survival Anglia gave assistance, and permission was granted to use reference sources covered by Survival's copyright. The directors and staff of the London Zoological Society and their Whipsnade Animal Park also worked closely with RGB.

Sea Life Centres, whose ocean display centres are found in many coastal resorts around Britain, gave support for the second title, Sea Life. Each costs £29.84 from HB Marketing (0753 686000).



Sales take off

FIGURES just released prove *Amiga Computing* is one of the fastest growing Amiga magazines. For year-on-year sales of your favourite monthly have jumped by nearly 90 per cent and the rise continues.

Its sister titles have also increased their circulations and group chairman Derek Meakin said the new circulation figures reflect the buoyant state of today's computer market, both among games players and serious users.

"Sales since June have shown even more dramatic increases, and we confidently expect to post record figures at the end of the current six month period," he said.

So we thank all our 150,000 readers for coming back to *Amiga Computing* month after month and say welcome to the thousands of those reading the magazine for the first time this month.

CDTV learns more

ANOTHER version of the best-selling home education package Fun School 3 has just been released on compact disc for CDTV users by Europress Software (0625 859333).

Children aged between five and seven years old can now use the software, which has become the top education program for the CDTV in the USA and UK. Six games feature in this version, each with several difficulty levels to develop a child's number and word skills.

Spokesman Paul Shrimpling explained: "With CDTV establishing the first foothold in the interactive multimedia market, Fun School is staying hot on its tail with the launch of the 5 to 7s package." Price: £24.99.

New sounds for Amiga

STEREO MASTER is a new stereo sampling package for the Amiga which includes AMAS-style software and "more extras than an M series BMW".

Special sound effects which can be emulated from the FX menu include echo, reverb, ramp, pitch up and down and stereo bounce. Other features are fast fourier 3D display, twin stereo spectrum analyzer and a sample sequencer for up to 18 samples.

It also has twin oscilloscopes, full editor, new style stereo cartridge, multiple filters, real time record and play maker and full multi-tasking. Price: £39.95 from Microdeal (0726 69692).

Christmas Critters

CHRISTMAS is coming and so are some unusual computer products. Critters are cuddly toy-type creatures that attach to computers and monitors.

There are four different species: Teddy Bear, Dragon, Bunny Rabbit complete with carrot, and the British Bulldog. Price: £26.99 each from Crittercal Computers, PO Box 300A, Surbiton, Surrey.

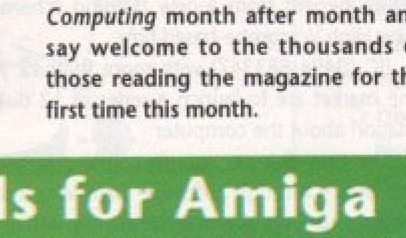
Stop that thief

RESEARCH shows UK crime rising and with that comes a warning to secure valuable items such as Amiga setups from thieves.

A small firm in the Midlands has just launched what they describe as a compact, practical and inexpensive way to reduce the risk of theft in the workshop, office or home.

Securit is a do-it-yourself locking device which can be fitted to a wide range of products including computers and monitors to enable them to be locked to a surface.

Made of two metal locking bars and plates, it is supplied with a fixing kit which covers most fitting applications. Prices start at £47.50 from L.R.M. Consultants (0676 34095).



It is becoming increasing important to secure your Amiga setup from theft. Securit prevents secured items from being taken

DIARY DATES

15 to 17 November, 1991
World of Commodore
Organiser: ITP Exhibitions
Venue: Earl's Court 2
The 15th Commodore event.

1 December, 1991
All Formats Computer Fair
Organiser: Bruce Everiss
(0225 868100)
Venue: City Hall, Candleriggs, Glasgow

14 December, 1991
Venue: Royal Horticultural Hall, London

15 December, 1991
Venue: University of Leeds Sports Centre, Leeds
Plenty of bargains and heaps of public domain software.

5 to 8 December, 1991
Computer Shopper Show
Organiser: Blenheim Pel
(081-868 4466)
Venue: Wembley Exhibition Halls
An opportunity to buy some bargains before Christmas.

7 to 9 February, 1992
5th International 16-bit Computer Show
Organiser: Westminster Exhibitions
(081-549 3444)
Venue: Novotel Hotel, Hammersmith
The first post-Christmas Amiga show. Expect plenty of bargains.

OVERSEAS EVENTS

1 to 3 November, 1991
Amiga '91 Koln
Organiser: Ami Shows Europe GmbH
(010 49 8092 24086)
Venue: Fairground, Cologne, Germany
The second major German show of the year expects to attract more than 200 exhibitors.

● If your company is organising a show relevant to the Amiga and it's not listed, let us know so we can include the information in the diary.

Racers put foot down

AIMED at games players is a new Spectravideo (081-900 0024) foot pedal designed to make leisure titles which involve pushing the joystick upwards to move forward or accelerate easier.

Foot Pedal Controller works as an enhancement to a conventional joystick for car racing games. It is supplied with three pedals which can be pressed by the foot in much the same way as a car's clutch, brake and accelerator.

Price: £24.99



WHAT'S new USA

Video reigns at AmiExpo

Report by Denny Atkin

WHILE visitors didn't show up in droves to the recent Fall AmiExpo at Oakland Convention Center in downtown Oakland, there was no shortage of exhibitors. More than 40 companies hawked their newest products at the show.

As is typical with recent Amiga shows, one booth that was always crowded was NewTek's. The company showed version 2.0 of their Video Toaster software, which adds a number of new wipes, and an improved version of the LightWave 3D software. The company still didn't have news on PAL or A3000 versions of their Toaster.

AmiExpo definitely had a video emphasis. Digital Creations' new DCTV 1.1 software upgrade generated quite a bit of excitement, as did their new Kitchen Sync time-base corrector. Digital Micronics impressed people with the DMI Resolver add-in video board, a high-speed graphics enhancer for the A2000 and A3000.

Animation

Unlike true 24-bit video cards, this card's 256 colours – from a palette of 16 million – allow for high speed animation. The onboard 60MHz TMS34010 video processor gives great animation power. DMI was wowing the crowd with a real time, 3D flight simulator running in 1280 x 1024 resolution.

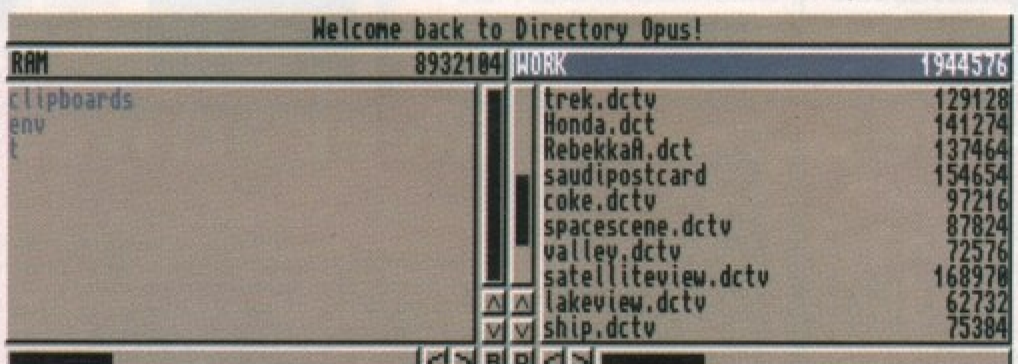
After looking at all the 24-bit graphics cards on display, the Amiga's standard graphics modes started to look more on more like the display of a VIC 20. GVP showed their Impact Vision 24 card which features a built in deinterlacer, frame grabber, and genlock.

Progressive Peripherals and Software displayed their RAMbrandt graphics and video card, which uses two slots but combines the best features of the GVP and DMI cards. While Impulse wasn't exhibiting at the show, their Firecracker 24 video card was on show at Virtual Reality Labs' booth, displaying dazzlingly realistic 3D landscapes created by VistaPro.

One truly bizarre card which was announced, but not shown, was Expansion Systems' Van Gogh video enhancer card, which adds IBM-style SuperVGA modes to the Amiga. Scheduled for release in January 1992, the Van Gogh card provides resolutions up to 1024 x 768 in 256 colours.

It's not compatible with standard Amiga video modes, though, so you'll either need two monitors – one Amiga-style and one VGA – or a multiscan to use it. A nice bonus feature of the Van Gogh card is the ability to add the 2Mb Agnes chip and a second megabyte of chip RAM to your A500 or A2000.

A number of new accelerator boards were shown at AmiExpo. Video pros anxious to speed up their 3D renderings were all agog at the new 68040 boards on display, while those of us on hobbyist budgets were checking out the new crop of low-cost 68000 and 68030 accelerators.



Inovatronics' Opus Directory utility got itself a lot of attention at AmiExpo

Speed

CSA had their popular Mega-Midget Racer, which provides 68030 power starting at less than $300 street price. If you feel the need for speed check out CSA's new Magnum 40/4, a blazingly fast card for A2000 users who aren't afraid to plunk down a large chunk of change on an accelerator.

For $3995, you get a 68040, 1Mb of zero-wait-state 32-bit static RAM, up to 64Mb of 32-bit DRAM, a high speed SCSI controller, a parallel port, and two serial ports (one of which supports ➤

AppleTalk networks). CSA's demos of this board, using ASDG's new Art Department Professional 2.0, showed it to be three to five times faster than an A3000.

Progressive Peripherals and Software also showed off their 68040 boards for the A2000 and A3000, and RCS Management had their Fusion Forty board. It was hard to tell which board was best – they were all blazingly fast. While many visitors were impressed with the high speed 68040 boards, most folks walking out with accelerators had chosen ICD's AdSpeed board, the 14MHz cached 68000 that was selling for about $200 at the show.



While it seemed there was a neat new hardware product ever corner you turned, new software was a bit more scarce. New Horizons was shipping ProWrite 3.2, an upgrade that probably deserved to be bumped up to version 3.5 or 4.0.

More features

This improved wordprocessor now sports 4096-colour printing, built in PostScript support, a new high quality print mode, a better file requester and a new 3D user interface. AmigaDOS 2.0 users will also find support in the program for scalable outline fonts and public screens.

The best selling software at the show was Electronic Art's DeluxePaint IV, which finally shipped. EA also publicly premiered Populous II, which should be shipping early in '92. It has more disasters, more characters and a better user interface.

Other games were scarce. MicroProse showed their new Amiga products, and Centaur Software unveiled their Fantastic Voyage game, a computer adaptation of the science fiction classic that shrunk Raquel Welch down to the size of a red blood cell.

Amiga desktop publishers were treated to upgrades of both major page layout programs. Gold Disk's Professional Page 2.1 adds few new features, but it's much faster than previous versions and fixes the numerous bugs in v2.0.

Softlogik's PageStream 2.2 sports a 3D, AmigaDOS 2.0-style user interface and adds a hotlinks interface for direct communication with Softlogik's new PageStream add-ons, such as the BME bitmap editor and PageLiner text processor. Both the PPage 2.1 and PageStream 2.2 upgrades are free to registered users in the U.S.

Oxxi showed off SpectraColor for the HAM-E board, its Novell Netware client software, AudioMaster IV sample editor, and Visionary adventure game development language. They also premiered Presentation Manager, a professional quality program that creates charts and slides for live presentation or output to film or a colour printer.

Opus pocus

One software product that garnered a lot of attention was Inovatronics' Opus Directory utility. Incredibly configurable, with full ARexx support and built in animation, picture, and sound players, Opus was making a lot of CLI-haters very happy. Progressive Peripherals & Software's DiskMaster II provided opus with some stiff competition, though, with its multi-window interface.

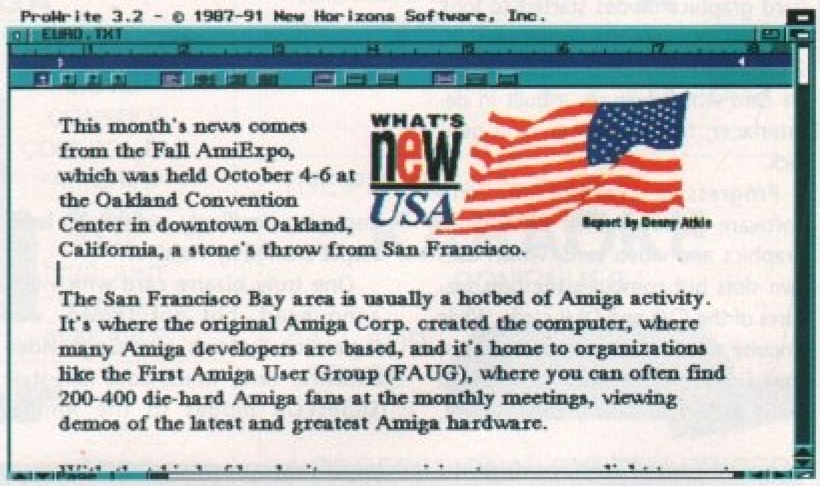
The product that excited me the most, though, was Voyager, the Dynamic Sky Simulator from Visionary Software. Like VRLI's Distant Suns, Voyager lets you plot the sky from any point on the earth's surface.

The program also includes a complete database of NASA and ESA space probes, so you can plot the paths of historic missions like Voyager 2 and Magellan. If you have any interest in astronomy or space exploration, this program is a must.

Probably the only disappointment at AmiExpo was that AmigaDOS 2.0 enhancer kits weren't available for sale. The continuing saga of The Operating System that Wouldn't Ship may be drawing to a close, though. A few dealers in Pennsylvania now have 2.0 Enhancer kits. Commodore still haven't told dealers their retail price, so they can't be sold.

One notable absence from the show who were schedule to debut the new 5.0 for the Amiga, and give the keynote speech opening the show. However, the booth was empty, and Commodore Applications and Technical Support's (CATS) Jeff Scherb stepped in to do the keynote address.

A company spokesman claimed that there were problems with the program – it's still in Alpha test – that made it unsuitable for showing at AmiExpo. Industry scuttlebutt had it that is waiting for Commodore to commit funds for development assistance before they'll commit themselves to finishing the new version.



ProWrite 3.2 now has 4096 colour printing PostScript support and a host of other new features

Improved setting

AN ENHANCED version of Gold Disk's (010 1 213 320 5080) entry-level page layout software, Pagesetter, has just been announced.

Pagesetter III is designed to provide a complete text and graphics creation and layout system. It includes a full page layout program, wordprocessor and spelling checker and colour paint program. A selection of hi-res structured clip art is also available.

It is now PostScript-compatible and can print colour bitmaps and clip art. Price: $129,95.

Business spreadsheet arrives

BUSINESS users are being targeted for a new high-end spreadsheet and graphing package from California-based Gold Disk (010 1 213 320 5080).

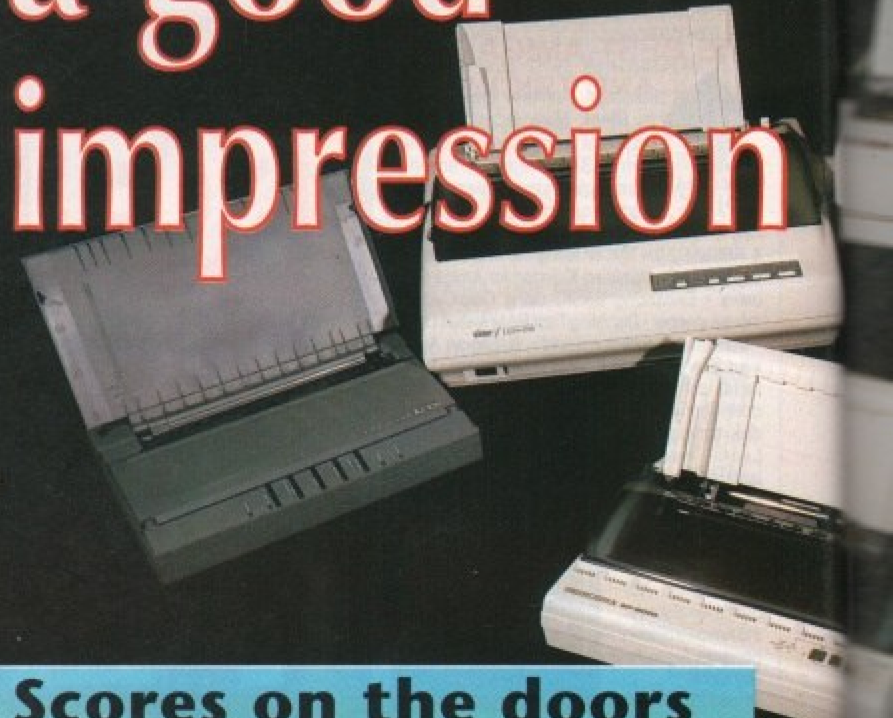
Professional Calc's interface has a graphical control panel for fast access to common functions. Multiple fonts and colours are supported and user-definable style tags control attributes such as font, type style, point size, alignment, colour and numeric font.

An outlining feature means rows or columns can be collapsed and hidden and collapsed outlines can be expanded and displayed when needed. Full colour 2D and 3D bar graphs, pie charts, line, column x-y scatter and area graphs can be generated and multiple fonts including special text effects are available. Files from leading business packages such as Lotus 1-2-3, Maxiplan and dBase can be imported in to Professional Calc and graphs xsaved as IFF bitmaps, Professional Draw clips, Aegis Draw Plus or Encapsulated PostScript files.

More than 125 statistical, trigonometric, financial and user-definable functions are provided and ARexx support includes 75 functions,. which can be called during spreadsheet recalculation.

Requiring at least one megabyte of memory it has a US price tag of $395. In the UK call Silica Systems (081-309 1111).

Make a good impression



If you use your Amiga for anything other than games then chances are you'll need a printer. After all, a wordprocessor is not much use if you can't get the documents you type onto paper, right? It's a little impractical to have to keep booting up DPaint to look at your artistic masterpieces when they could be Blu-tacked to your wall. So a printer is obviously a pretty essential piece of kit for your more serious Amiga owner.

Therefore, it's a pity that out of all the pieces of hardware you'll ever buy, printers are guaranteed to be the bane of your life. Feed jams, faulty drivers, indecipherable manuals, wrong page sizes, the list is endless. Luckily, not all printers are the Lucifers of the computer world, in fact, some are pretty good. Before we sort the wheat from the chaff though, let's just clarify a few terms.

9-pin

A 9-pin printer is the most basic design. It works on a similar principle to a typewriter, in that it prints by striking the paper through the ribbon. Characters are created by a system of nine pins which make dots on the paper in the shape of the character, hence, believe it or not, the name 9-pin.

In draft mode the print head only makes one pass over the paper. This means that the you can see the dots making up each character. In near letter quality mode (NLQ) the print head makes two passes over the paper filling in the spaces between the dots and giving better quality printouts. Unfortunately this means that 9-pin printers are very noisy, but they are also cheap.

24-pin

A 24-pin printer is, strangely enough, like a 9-pin printer but with more pins on the printhead. This means that the printout is generally of much better quality. A 24-pin draft printout is usually of the same quality as a 9-pin NLQ printout as the greater number of pins gives the printouts much better resolution.

24-pin printers are also suitable for graphics printing, although colour is really necessary for decent results.

The posh ones

If you've got some extra pennies knocking about then you may want to splash out on a more up-market printer. Currently rather trendy are bubblejet printers. They produce printouts by squirting tiny globules of ink onto the paper, rather then striking the paper, and so are practically silent.

The downside to this is that, not only are they out of reach of most home owners' pockets, but they are also useless for batch printing of invoices and bills as they cannot use continuous fanfold paper, or carbon paper. This is by the by though, if you want professional quality printouts and are willing to fork out the extra.

Drivers

Before you can "dump" your documents onto paper you have to make sure that both your Amiga and printer can communicate properly. This is where a printer driver comes in. A printer driver is simply a small piece of software that allows Amiga and printer to understand each other, like an electronic Babel fish.

Most printers will work with an Epson driver, which will come in some form or another with most software packages, or if not then a printer driver will be supplied with the printer. Better results can be gleaned if you use a driver specific to your printer, so be prepared to either scour the PD libraries or if you're very brave you could try and customise your own.

Scores on the doors

To help sum up each brief review of the printers, we now present an all-new ratings system. Each printer will be marked out of ten on four categories and also given an overall percentage. Please note though that the marks given to 9-pin printer aren't really comparable to 24-pin, otherwise it would be a tad unfair to the poor 9-pins. The categories are thus:

EASE OF USE ..How easy is it to get the thing up and printing? Does the manual make it obvious? Does the paper get chewed up all the time?

NOISE.............The lower the better. How noisy is it in comparison with others of it's type?

OPTIONS........Does it have built in fonts? How many knobs and menus are there? Are they easy to select?

RESULTS.........At the end of the day, what does the actual printout look like? Is the text clear, are the graphics indistinct? And if you can't figure that out then you're reading the wrong magazine.



Citizen Kane

Citizen produce a well known and well respected range of both 9-and 24-pin printers. Under scrutiny here are the 9-pin Swift 9, the popular 120D+, the 24-pin 124D and the rather odd PN48 Notebook printer. The Citizens were supplied by Silica Shop (081-309 1111).

Swift 9
(£222.08 inc. VAT)

A very efficient 9-pin, which gives surprisingly good results. The rather novel menu system gives each button about three different functions. This gives the Swift a lot more options and choice than its rivals, but can

As prices fall, the time is right for buying. With dots before his eyes, Daniel Whitehead presents a guide to printers with impact



The Seikosha Posse

Seikosha produce a good range of both 9- and 24-pin printers, so we've chosen the best of both categories to cast our gaze over – the Seikosha SP-2000 9-pin and the Seikosha SL-92 and SL-210 24-pin . All Seikosha printers were supplied by Silica Shop (081-309 1111).

SP-2000 (£151.58 inc. VAT)

The first great advantage of the SP-2000 is its compact size. It should fit pretty snugly on to even the most crowded desk. It doesn't even sacrifice quality for size. The ribbon supplied is sturdy and should last for a good long while, and the manual is great. Plenty of clear line drawings guide the beginner through the initial stages of setting up, while the more technical minded among you can find solace among the tables and lists of hex at the back.

Once set up the printer works fine in both draft and NLQ mode, with no smudges or hiccups. The only problems that were encountered were when using continuous fanfold paper. The paper feeds seemed to have trouble lining up the paper automatically, and when first wound through the paper tended to tangle against the paper bail lever. The problem isn't seriously crippling, although it does hint at a poor design.

If you want a relatively cheap 9-pin simply for printing out letters, though, then the SP-2000 is a pretty safe bet.

Ease of use

Noise

Options

Results

Overall 89%

SL-92 (£322 inc. VAT)

If possible, this 24-pin is even smaller than its 9-pin counterpart. Predictably, its results are much more desirable than the 9-pin, and it doesn't share the SP-2000's problems with fanfold paper.

A plus is the wide variety of fonts available from the printer itself. Each font is easily selected and the variety between them is enough to make each one worthwhile. It's nice and speedy when dealing with text, and graphics are fast too. The quality of graphics depends on what sort of picture you're dumping. Hi-res artwork tends to be indistinct, as black and white can't really do justice to the Amiga palette, but clip art for documents is fine.

As with the SP-2000 the manual is very helpful with a fine balance of basics and in-depth techy stuff. All in all a very efficient and user friendly machine.

Ease of use

Noise

Options

Results

Overall 85%

SL-210 (£433 inc. VAT)

A much larger printer than the other two Seikosha offspring and as such a tad more powerful. Still a 24-pin, but with a distinctly more professional look and feel. The printers selection panel, in particular, is very smart.

Each option is selected by a little wheel that cycles through the options in a window. This cuts down the need for unresponsive touch sensitive pads and those annoying LED lights.

When it comes to results, they are pretty much the same as the SL-92. The printing is a bit faster and quieter and the whole thing just "feels" that bit more trustworthy than the other Seikoshas, but that's just a gut reaction, as only long term use will tell.

As it stands though, this is the best of the Seikosha crop and well worth a look.

Ease of use

Noise

Options

Results

Overall 89%



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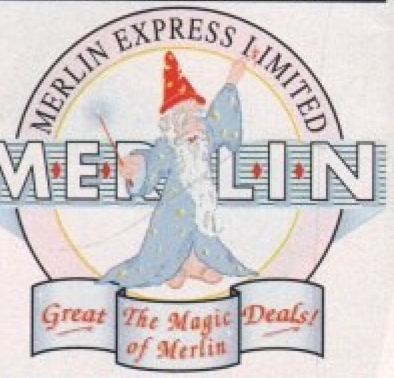
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also prove a little too clever for its own good, and can lead to unnecessary confusion.

Despite that, the Swift 9 is great printer, especially for a 9-pin. It's not quite as noisy as other 9-pins and gives a good clear printout in all of its three built in fonts. It also avoids the problems that the Seikosha 9-pin suffered with fanfold paper by using flat tractor feeds rather than round ones which have a habit of making paper loop over and tangle up in the printer.

The manual is very well thought out and contains a comprehensive index and glossary to help you through the jargon. The printer also features a "quiet" mode, a feature common on Citizen printers. It's a nice idea, especially for those who are sick of the horrific screeching that dot matrix printers make. Unfortunately, it doesn't really make that much of a difference to the noise level, but the thought was there. A great printer, and doubly good for a 9-pin.

Ease of use
Noise
Options
Results
Overall 85%



120D+ (£151.58 inc. VAT)

A "plus" version of one of the cheapest and most popular 9-pin printers around. Predictably, at the price it is not without its problems but as a budget printer for the home user it's a pretty safe bet.

As far as printing goes, it's pretty fast and also surprisingly quiet. For a 9-pin the graphics printing is also a bit of a twist, as it's not at all bad for piccies. As a downside, the printer is a devil to get working as the printer head and ribbon guide are extremely close together. This means that inserting the ribbon takes a lot of patience and lots of inky fingers.

This rather cramped arrangement also means that care must be taken when loading paper, as it can tend to be caught by the ribbon guide and torn. It's not the worst printer in the world, nor is it the best, but for a cheap and reasonably efficient 9-pin you can't go far wrong.

Ease of use
Noise
Options
Results
Overall 70%

124D (£198.58 inc. VAT)

Basically the 124D is a 24-pin version of the 120D+. It's a cheap and cheerful 24-pin printer for those who want 24-pin quality printing for a lower price. Actually, to compare it to the 120D+ is a little unfair as it doesn't suffer from half the problems that its 9-pin chum does.

The paper feed and control is easy and without hassle, and unlike the 120D+ it doesn't have any feed jams. It's fast with text and comes with only two built in fonts to choose from. The quality of the printout is good, as would be expected from a 24-pin.

The only real problem with this printer is that it's very noisy, and the quiet mode makes little difference, again. Not really the sort of problem that makes it a terrible printer, but it could cause problems if you want to use it in an office environment.

As with the other Citizen printers the manual is excellent and should make the hardware accessible to everybody. An average printer for an average price, and you can't say fairer than that.

Ease of use
Noise
Options
Results
Overall 70%

PN48 Notebook (£229.58 inc. VAT)

A very odd printer this. It's smaller than your average disk box! Whether or not this is an advantage really depends on what computer you have. After all, a portable printer's a bit useless if you haven't got a portable computer. Obviously, it won't work with fanfold paper, as there's barely enough room for the printhead inside, let alone tractor feeds.

Looking beyond its gimmicky appearance, it is actually a pretty good printer. It's practically silent due to the fact that it's not a dot matrix printer. Instead it prints using non-impact thermal transfer with a 48-pin head. Apart from the reduction in noise this doesn't really give any drastic improvements in print quality, but it does sound impressive.

The main problem with a printer of this size is that many features have been removed to keep it small. There's no paper feeder for instance, so great care has to be taken to make sure that the paper is inserted straight or your printout comes out all wonky. It's probably a good choice for printing out letters and such like, but its usefulness for Amiga owners at the price is reduced because of its size.



Ease of use
Noise
Options
Results
Overall 75%

Fujitsu DL900 (£229)

It really has to be said – this printer looks hauntingly like a knitting machine. It's the most unprinter like printer I've ever seen, except for the Citizen Notebook printer that is. But, believe it or not, it's a really good printer.

There are absolutely no compatibility problems with any software, as you can just wire it up and print to your heart's content on any generic driver. There is a Fujitsu driver supplied with the printer, but the machine we received came with a driver on a PC format 5½ inch disk. Whether or not this applies to all the machines or whether we were the victims of some sort of mail order slip-up we'll never know. It needs bearing in mind though.

The printed result is of a high quality and there are no problems with either cut sheet or fanfold paper. The only slight hassle is that whenever you enter "set up" mode to select a font – of which there are seven resident, as well as extra height lettering – the printer prints out a status report, which can be a real pain, especially if you've just gone to great lengths to get your paper lined up properly. It's also a bit of a waste of paper in these ecologically sound times.

As far as niggles go, that's about it. A sturdy, if ugly, printer that shouldn't give you any trouble whatsoever. Call Fujitsu on 081-573 4444 for more details.

Ease of use
Noise
Options
Results
Overall 81%

Canon BJ-10e

(£345)

The Canon BJ-10e BubbleJet printer is by far the poshest printer we've got. It's possibly the best looking as well. Its appearance is more like that of a laptop PC than a printer. It's very compact and closes up to form an inconspicuous grey box.

It works, as described before, by squirting ink onto the paper rather than using a ribbon. This has many advantages, and they show. For a start, there's no ribbon to wear out so all the characters are of the same bold quality. Quality? Tell me about it! The printouts look as though they just came from one of those ultraposh laser printers.

It's fast with text, but very slow with graphics and the pictures tend to be very dark. The noise level is next to nothing, in fact you may find yourself checking that it is actually printing.

It does have some disadvantages. The price for instance, may be just a little too much for your average home user, but for someone setting up a small business it could fit the bill. As with the Citizen Notebook it doesn't have any tractor feeds, and hence no option for fanfold paper. It also lacks a decent paper feeder to keep the paper straight, so careful insertion is required to prevent lopsided printouts.

Probably the best quality printer we've seen so it may be too expensive, but if you're willing to spend that sort of money then you won't be disappointed.

Ease of use
Noise
Options
Results
Overall 89%

The grand finale

Well, at the end of it all, which ones are best? It's got to be a cop out I'm afraid. Which printer you choose really depends on what you want from it.

If you want graphics printing then I suggest you take a look at the Star range first, paying particular attention to the XB24 twins. If text printing is your target then the Canon BubbleJet is second to none, but it's definitely a bit pricey. For those on a budget, try some of the cheaper Citizens, or the Fujitsu.

For those who just want a printer for a bit of everything then the Seikosha range is probably your best bet. There are no really dire printers here, although obviously the more you spend the less hassle you'll get. Remember though, try before you buy.

Baby, I'm a Star

The Star range features plenty of choice. From the 9-pin LC-10, to the 24-pin LC24-200 and LC24-10, to the full colour XB24-250 and XB24-200. All are of a high quality and there are plenty of good reasons for buying each. The Star range was supplied by Gordon Harwood Computers (0773 836781).

XB24-200

(£399.95)

As the name suggests, this printer is very similar to the XB24-250. They even share the same manual. Therefore the only real difference is the price.

Nine fonts reside in the printer, each capable of being printed in three different sizes. It's very fast on draft text, and still remarkably fast on NLQ. All the things that applied to the XB24- 250 apply to this, including its hefty size. Try them both and see which one suits you best before buying.

Ease of use
Noise
Options
Results
Overall 90%

XB24-250

(£449.95)

A real giant of a printer this one, and that's its only real disadvantage. It's a colour printer and so best suited to graphics, although it's great with text too. The graphics are printed out quite fast, as it prints them in blocks rather than line by line and the results are sometimes a little blocky, but are of a good enough quality to grace your average fanzine or newsletter.

As colour ribbons can wear through alarmingly quickly, the quality tends to vary throughout a picture and light spots can occur when the ribbon becomes very worn. It prints text extremely quickly, and with little fuss. The printer often takes care of itself, requiring little more from you than for you to stick some paper in the back. Also as an added bonus, it's pretty quiet considering all the printhead shifting that goes on during graphic dumping.

As I said, its only real problem is its mammoth size which may mean that some people may have trouble finding somewhere to put it. If you've got the room, then this one is state of the art.

Ease of use
Noise
Options
Results
Overall 90%

LC-20

(£159.95)

The LC-20 is the baby of the Star range. Not for nothing is its subtitle "MultiFont" printer. There are no less than four fonts residing within its tiny frame, and each of those can be printed in several other styles all at the press of a button.

We experienced no problems concerning compatibility or paper loading and all the printouts were of a quality to put other 9-pins to shame. All the options are extremely easy to select, and the layout of the selection panel makes it simple.

The only problem with the LC-20 is that it is very noisy. It is also fairly slow, although the final results are well worth the wait. Probably the pick of the 9-pins, and well worth shelling out for.

Ease of use
Noise
Options
Results
Overall 87%

LC24-10

(£214.95)

Another "MultiFont" printer with 15 varieties, plus extra height characters. It's a 24-pin and the printed results are as good as any other 24-pin printout. The print speed is fastest in draft mode, obviously, with 150 characters per second. It goes down to 50 cps when using NLQ.

It's pretty noisy, and there is of course the quiet mode. It's small and tidy looking and has a selection panel that looks complicated but is really quite easy to get the hang of.

The manual is slim, but contains all the necessary blurb to allow you to get the best from the printer. It also contains a handy troubleshooting section that lists some of the problems that you may experience. It's not really a marvellous printer, merely a good one. Pleasant.

Ease of use
Noise
Options
Results
Overall 75%

LC-200

(214.95)

A 9-pin colour printer is a bit of a gamble for Star. 9-pin printers aren't really very well suited to graphics printing,so a colour option may well have been a futile gesture. Thankfully, this is not the case.

The graphics printing is not up to the quality of the 24-pin. Things look a little chunkier than usual, but that's the only real difference. The graphics printing is slow and noisy.

Text printing is fine as well, with a choice of six fonts. There were no problems when setting it up, and it works fine without any fiddling around. The paper feed is smooth, so the paper rarely catches and gets all tangled up.

As a 9-pin it probably won't appeal to those who want professional screen dumps, but for a home user who just wants to print out their DPaint doodles it's perfect.

Ease of use
Noise
Options
Results
Overall 80%

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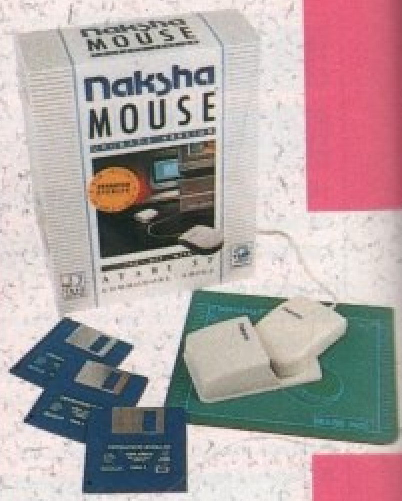
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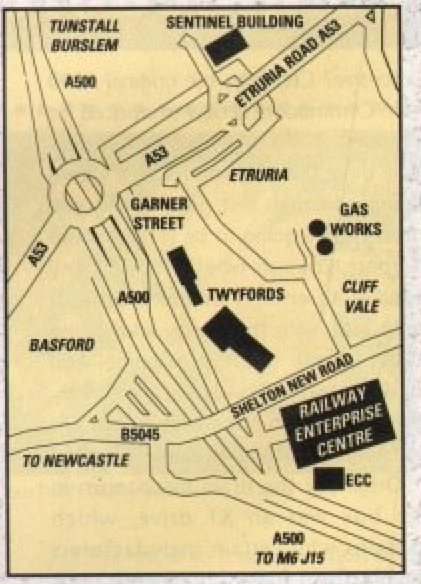
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If you have never used a hard drive with an Amiga, but have struggled on with just a solitary floppy, then upgrading is akin to a ripping out the engine in a Lada and wiring in a Porsche. Or a GTi or a Testarossa. All hard drives improve the performance of the Amiga considerably, but some more considerably than others. Read on we as road test the leading contenders



Serious computing power

That's what you get when you invest in a hard drive for your A500, but with numerous machines now flooding on to the market, which is the best for you? Duncan Evans investigates

Commodore A590

Expensive? Certainly, the original A590 from Commodore is now overpriced for a modest 20Mb drive, but then it does have three things going for it. It's from Commodore, so if it goes wrong you know there's going to be some backup support, though whether that's any good is an entirely different story. It looks nice, with the design and styling fitting in with the host machine. And thirdly, it has a RAM board which simply takes plug-in chips enabling you to add another 2Mb quite painlessly.

Originally the drive mechanism in the box was an XT drive, which explains why certain manufacturers bought them from Commodore, took out the old drive to stick in their PC range, and put a new and bigger SCSI drive inside. Everyone was a winner in those circumstances, but Commodore has effectively ended this practice by putting SCSI drives in as standard.

The difference for you and me is that the SCSI drives are faster, so if you decide to plump for the reliable supplier angle check on the underside of the drive which it is. It will say XT or SCSI – Seagate, incidentally – so make sure it's the latter. Then again, if you see an XT version going dirt cheap at a computer show, from a reasonably reputable dealer and you are on a limited budget, then go for it. I have had an XT A590 since it was first released and it has given me no trouble at all. I just make a cuppa while waiting for it to boot.



An A590 package consists of a very light external power supply box, in traditional Commodore shape, your drive, manuals and two disks. One is to test any RAM chips you install in the drive, the other is to set the drive up for use. And if you want to start again, these utilities will let you completely reformat the drive.

The manual is nice and helpful, taking you through the various stages. The drive should already have been formatted, so all you have to do is check that it hasn't been damaged in transit. Just run the requisite program and then if everything's OK, your drive is ready to use.

If you want to customise the drive at all then you need to run the HDToolbox program. Partitioning and editing drive definitions are possible – though the latter should only be attempted by the knowledgeable. Generally the software is straightforward to use, and isn't prone to crashing.

The drive itself looks the part and extends your Amiga setup sideways in an unobtrusive fashion. At the rear are the power socket, the DIP switches and an external SCSI port for adding extra



SCSI drives. Unless you are adding extra drives, only DIP switch one needs to be checked – it should be in the "on" position so that the Amiga will boot from it rather than the internal drive.

The older A590s used slow Epson drives, with the newer ones using faster Seagates. Neither are top quality, but with the Seagate you are getting a reasonable performance. Still, it's only 20 meg, and if you intend to do any graphics work, that space will soon disappear. However, for home or personal use it's probably enough. You can install your favourite wordprocessor, art package and serious software, along with quite a few games, especially the American ones like Eye of the Beholder.

If peace of mind is more important than speed or size – and thus value for money – then the A590 should still be considered.

Speed
Value
Ease of use
Styling
Overall

Price £350
Size 20Mb
RAM Board ....Yes
Supplier:
Numerous

Hobbyte A590

HARDWARE ROUND-UP

But of course, if you want the A590 with a bit more punch, better value for money, but not from Commodore and all that implies, then this one of the attractive alternatives.



Hobbyte of St.Albans and Luton has taken out that stodgy old Seagate 20 meg drive, and replaced it with a fast action 52 meg Quantum drive. The price? An extra £50 for an extra 32Mb of storage. That sounds like a good deal to me, but then the original A590 is overpriced anyway. Still this is good value especially considering that Quantum drives are better quality.

Physically it is an A590, with the same stylish design, power and activity lights, rear mounted DIP switches and SCSI interface. Even the software is exactly the same, right down to Amiga Basic and the head park icon. Actually that's something you should be aware of. Quite a few hard drives don't supply the official Commodore programs and accessories. It doesn't matter if you still have the Extras disk that came with your Amiga in the first place, but it might if you've lost it.

With this device coming from basically a mail order and retail supply company, the software is already installed and the drive is checked prior to it either being dispatched or sold.

This variety of the A590 also offers the internal RAM board that can be so handy for adding memory. Just go along to the next *Computer Shopper* Show, for example, and pick up a meg of RAM for £40.

As far as speed goes this is fast – faster than the Xetec FastTrak which also uses a Quantum drive. To judge the relative speeds of the drives I loaded and ran various pieces of software and timed them.

A fast drive, a stylish case, decent amount of storage and a Ram board, all for under £400 – just If you can stretch to the extra cash, this is a good buy.

Speed
Value
Ease of use
Styling
Overall

Price £399
Size 52Mb
RAM Board ....Yes
Supplier:
Hobbyte,
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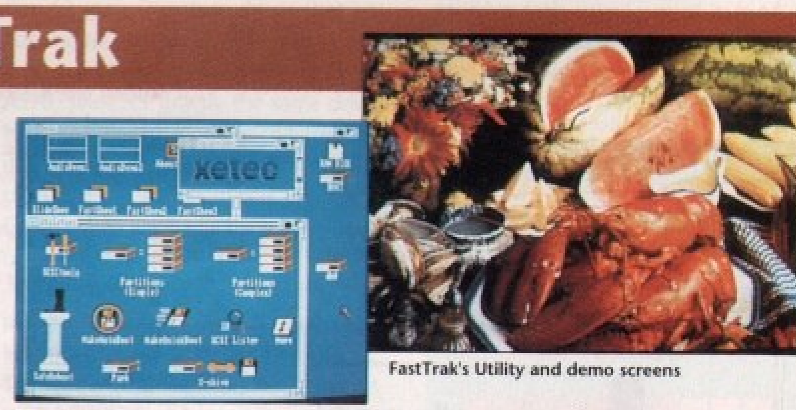
Xetec Fast Trak

The alternative place to keep your hard drive is underneath the monitor, and this is what the Xetec FastTrak system provides. A small unit it is not, but what is surprising is the sizable, murky brown box that slots on to the side of your A500. It isn't as big as a hard drive, but neither is it inconspicuous. This actually provides a SCSI interface to the hard drive itself, and contains a RAM board.

Unlike the A590 and its variants, this RAM board takes SIMMs – as opposed to DRAMs – allowing you to install up to 8 meg of RAM.

Why the RAM/SCSI box is this murky colour I don't know. It doesn't match the Amiga, and it doesn't even match the FastTrak drive itself.

The FastTrak case itself thankfully contains the power supply and has its on/off switch on the back, which is better than having it on an external power supply, unless you can't get around the back of the monitor once you've set your system up. The power socket takes a standard Euro connector, as found on kettles and the like, but unfortunately the cable supplied does not terminate in a usable plug, so you'll have to find a spare power lead yourself.



FastTrak's Utility and demo screens

The SCSI port on the back takes the lead from the FastRAM box, and there is a slot in the case for adding extra drives. There isn't a socket in this slot so you'll have to pay for one to be fitted if you want to add extra drives.

This system works just as well on the so-called A1500, so if you have your Amiga inside one of those bomb-proof shelters then the FastTrak is undoubtably more aesthetically suited to your system than most hard drives. For the rest of us it isn't the most pleasant looking device, but it sits under the monitor quite happily and looks businesslike.

The drive inside is an auto-parking Quantum, but having said that there is still a head park program installed, and you are recommended to use it before moving the drive around. On the speed front it might park the heads quickly enough and have a fast access time, but the actual data transfer rate - which is the important thing – isn't as fast as I thought it would be. Quicker than the standard A590, but noticeably slower than the A590 from Hobbyte. The drive ➤



comes formatted and installed, with various programs already stored on it. These include the usual low-level format options, but also, and quite handily, simple and complex partition programs, an archive program called X-chive, a soft reboot program, a sector editor and even a great range of digitised pics in a slide show.

This collection of programs is excellent, and a good reason for plumping for the Xetec rather than an alternative. You don't get things like Amiga Basic and the speech demos, so hopefully you either don't want them or still have your Extras disk.

The simple or complex partition program are a great idea. If you simply know that it's a good idea to stick a couple of partitions into a 50Mb drive – which it is because it makes accessing files quicker in each partition – but don't want to wade through the techy side or would be confused if you did, then the simple partition program will let you make your choices and then automatically do everything else for you. The complex partition program let's you play around with the system more.

Archiving is otherwise more where hard drives are concerned, and Xetec supply a professional backup system. If you can't get hold of it, or it's too expensive, then the X-chive utility will painlessly let you back up all that valuable data on to floppy drives.

Aside from a couple of aesthetic gripes, the FastTrak worked well and quickly, and gave the added advantage of letting you install loads of memory in the form of SIMMs in to the FastRAM box, rather than having to take the hard drive itself apart. Throw in the excellent utilities, and if you prefer having your drive underneath the monitor then the FastTrak is a very good choice.

Speed

Value

Ease of use

Styling

Overall

Price £424.68
Size 50Mb
RAM Board ....Yes

Supplier:
Cortex, Britannia Buildings, 46 Fenwick Street, Liverpool L2 7NB
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Supradrive 500XP

Full marks go to the Supra Corporation for creating maximum confusion. The first two chapters of the Operators Manual are completely wrong, which is why there is a slim and unassuming supplementary manual also included which has the right information in it. It hardly helps matters when the drive is shipped with such dire warnings as: "This drive left Supra as an unfinished kit and we accept no responsibility for it." Very reassuring.

The situation is that Supra ships them to dealers in this half-baked state and they have to assemble them before selling the finished version to you. Your warranty is therefore with whoever sells you the drive.

The Supra isn't the most sophisticated looking drive, coming in a slab like case that stupidly sticks out at the back. It also has an external power socket like the one on the A590. Aha, you immediately think, where's the power supply?

Fortunately there isn't supposed to be one, unless you are worried about the drive and its RAM board draining too much power from the Amiga's power supply. Then you can add one, otherwise you don't have to. Personally if I had 8 meg of DRAM chips installed – the maximum – I'd make sure that there was an external power supply connected.

There's a SCSI port on the back for daisy-chaining extra drives, two lights indicate power and activity, and there's an Amiga through-bus on the left side. There are also some DIP switches to change the drive setup, but these are unhelpfully placed on the side of the drive that slots against the Amiga.



Very handily, there is a game switch on the back of the drive. This cuts out the hard drive and frees up the Amiga, and also maintains the power to any extra RAM you have installed. Usually when you cut out the drive you lose the RAM too.

Internally it's another of those damn fine 52 meg Quantum drives that are starting to proliferate. This means that it runs at speeds similar to the Hobbyte A590, since it's exactly the same drive. However, because of the construction it's also quite noisy. There's a distinct thunking noise that makes you think Commodore has had a hand in its manufacture.

The software supplied is quite comprehensive, though the manual veers towards heavy detail rather than clarity. There is a copy of Express Copy plus manual, which is very nice, as it performs backups and archiving. It wasn't written for the beginner, mind you. It does however let you back up files which are larger than the capacity of a floppy disk, by splitting them.

The full list of bundled utilities includes a manual update file, head park, CLImate, partitioning, Supraformat and Edit, Supraicons (lets you install icons), SupraAutoinstall (installs system software), and a number of drivers and device utilities.

One of the more powerful utilities is CLImate which performs various disk and drive functions such as formatting, renaming, showing pictures, and general file management. All without resorting to CLI or plodding along with Workbench.

The 52Mb SupraDrive 500XT is quite impressive from a performance and software point of view, and with its higher price of almost £100 it takes the drive into the professional or very serious user category. But for the average Amiga owner it doesn't offer enough of an advantage over some of its rivals to warrant that extra cash.

Speed

Value

Ease of use

Styling

Overall

Price £499
Size 52Mb
RAM Board ....Yes

Supplier:
Cortex, Britannia Buildings, 46 Fenwick Street, Liverpool L2 7NB
Tel: 0727 56005

HARDWARE ROUND-UP

GVP Series II

Well I alluded to sports cars at the start of this article, and now we come to the top of the range, the luxury hard drive – the GVP Impact Series II. There's a range of sizes and prices on these hard drives, starting at £450 for the 40Mb version and going right up to £750 for the 100Mb version.

While the function of this article is to deal with the lower price range models, I'm pausing to mention the 100Mb version merely to point out that if you're going to spend quite a bit of money on a hard drive – over £600 – then spend it on this one.

For those with less than bulging piggy banks, the 40Mb version is the one under scrutiny at a slightly pricey £450.

For looks you can't fault the GVP. It fits the styling of the A500 almost perfectly, both in design and colour and size. Power comes from a lightweight external source, that takes a detachable Euro plug in, and then leads out to the drive itself.

At the rear is a SCSI port for extra drives, and on the top there's the obligatory drive lights, and the not so obligatory game switch. I liked this, because it isn't an unlabelled switch stuck round the back.

It's a nicer sliding switch with the words "auto-boot" and "game switch" clearly displayed. As with the SupraDrive, the switch cuts out the hard drive and lets games boot, while maintaining power to the RAM board inside.

This RAM board also takes up to eight meg of SIMM chips. Price wise there's very little difference between chip prices so don't worry about it affecting your choice of hard drive. For example I've seen 2Mb of DRAM at £95 with 2Mb of SIMM costing £90. Also, as I've said, I'd be happier with an external power source if you're installing plenty of RAM, and there the GVP wins over the SupraDrive which does not come supplied with one, although it can take one. If you can get hold of an A590 power supply, that is.

Under the bonnet of this sleek and stylish looking beast is a 40Mb Quantum drive. Yes, only 40Mb, as opposed to the 50-52Mb size that seems so prevalent now.

The reason for this, incidentally, is that Quantum have stopped making the 40Mb versions. However, the drive in the GVP is fast. Faster than every other drive I looked at.

For sheer speed the GVP was the winner, although two of the other Quantum-based drives weren't far behind. It also booted up quicker when turned on – considerably faster than the A590 and the FastTrack. The utilities supplied on the drive amount to little more than the contents of the extras disk like the A590 and its variant.

There are a couple of other programs supplied on a disk, and these include a formatting and partitioning program, a memory tester, and some bridgeboard software for those A2000 owners.

Still, we shouldn't complain – it means you get your system up and flying with the minimum of fuss and concern. A combination of the GVP and the FastTrak's software would be quite mouth-watering though.

Generally the GVP Series II is slightly more expensive than its rivals, and offers 10Mb or so less storage. To be honest I expect it won't be long before the 40Mb version is phased out in favour of a 52Mb drive.

If you want speed, style and a large capacity RAM board, then this is your drive. If only I could afford the 100 meg version.



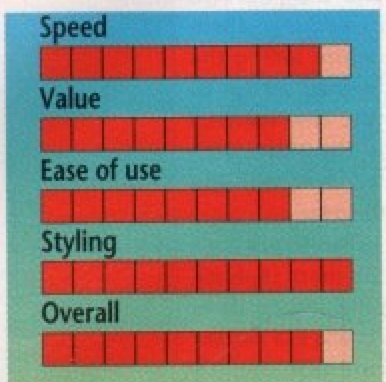
A drive in the park

There are three other possible options for the A500 owner seeking a good quality hard drive, but unfortunately two of them hadn't even got into the country as we went to press. From Evesham Micros comes the Reference 40, a plain looking 40Mb drive for only £299. Apparently quite a few orders have been taken for this drive, which had been advertised for a month before I got in touch with Evesham. Unfortunately at the time of writing there was still no sight of it in this country – it's coming from Germany – so we'll have to wait and see. When it arrives *Amiga Computing* will let you know.

The other non–appearance was by the Protar A500 HD, from Protar (0923 54133), naturally enough. Mark Dowling of Protar was wringing his hands when he realised that the drive would still be under test in Germany as our deadline expired. Protar are very much touting their drive as a GVP beater, which are bold claims indeed.

Superficially it looks very like the GVP with a long, sleek and correctly styled case. Capacities range from 20Mb up to 160Mb, with a cache facility on 40Mb drives upwards, giving a significant increase in speed. There's a RAM board of course, taking up to 8 meg, and the usual SCSI interface on the back is joined by a drive disabling – but not RAM – games switch. It should be here by now so look out for a review as soon as we get our hands on it.

A third option is available now is from Third Coast (0257 472444), and is the IVS Trumpcard. This takes up to 4Mb of fast RAM, claims to be two to three times faster than the A590, has auto–boot ROM as standard (we should hope so !), slots on to the side of the A500 and is available in sizes of 32Mb (£349.99), 50Mb (£399.99), 80Mb (£529.99) and 106Mb (£599.99). Check that it's in stock before ordering since our review copy failed to materialise – though we did get a SupraDrive on time from Third Coast.



Price £450
Size 40Mb
RAM Board ....Yes

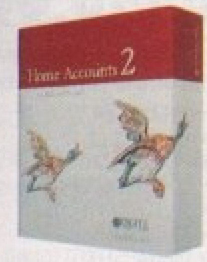
Supplier:
Power Computing,
44a Stanley Street,
Bedford MK41 7RW
Tel: 0234 843388

Conclusion

The GVP Impact Series II drive was the Ferrari of the collection, but didn't have a great deal of utility software. The storage capacity was less than its rivals,too. The variation on the A590 from Hobbyte was surprisingly good, containing a 52Mb Quantum drive. If you need more capacity than the GVP, and aren't looking for more than 2Mb or RAM expansion, this is great value. If you need that extra capacity and have cash to spare, then why not look at the next size of GVP drive up ?

The other alternative I'd definitely recommend is the ungainly Xetec FastTrak. Unlike the others it sits beneath your monitor, has decent speed, a great set of utilities, and the RAM board is in a box away from the drive removing the risk of any unfortunate accidents.

The Digita range...



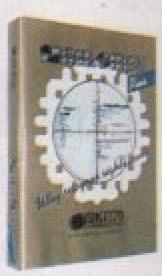
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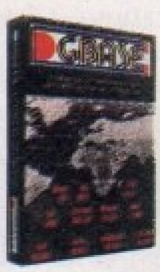
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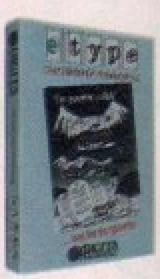
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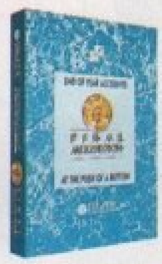


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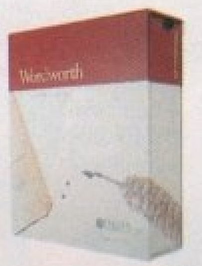


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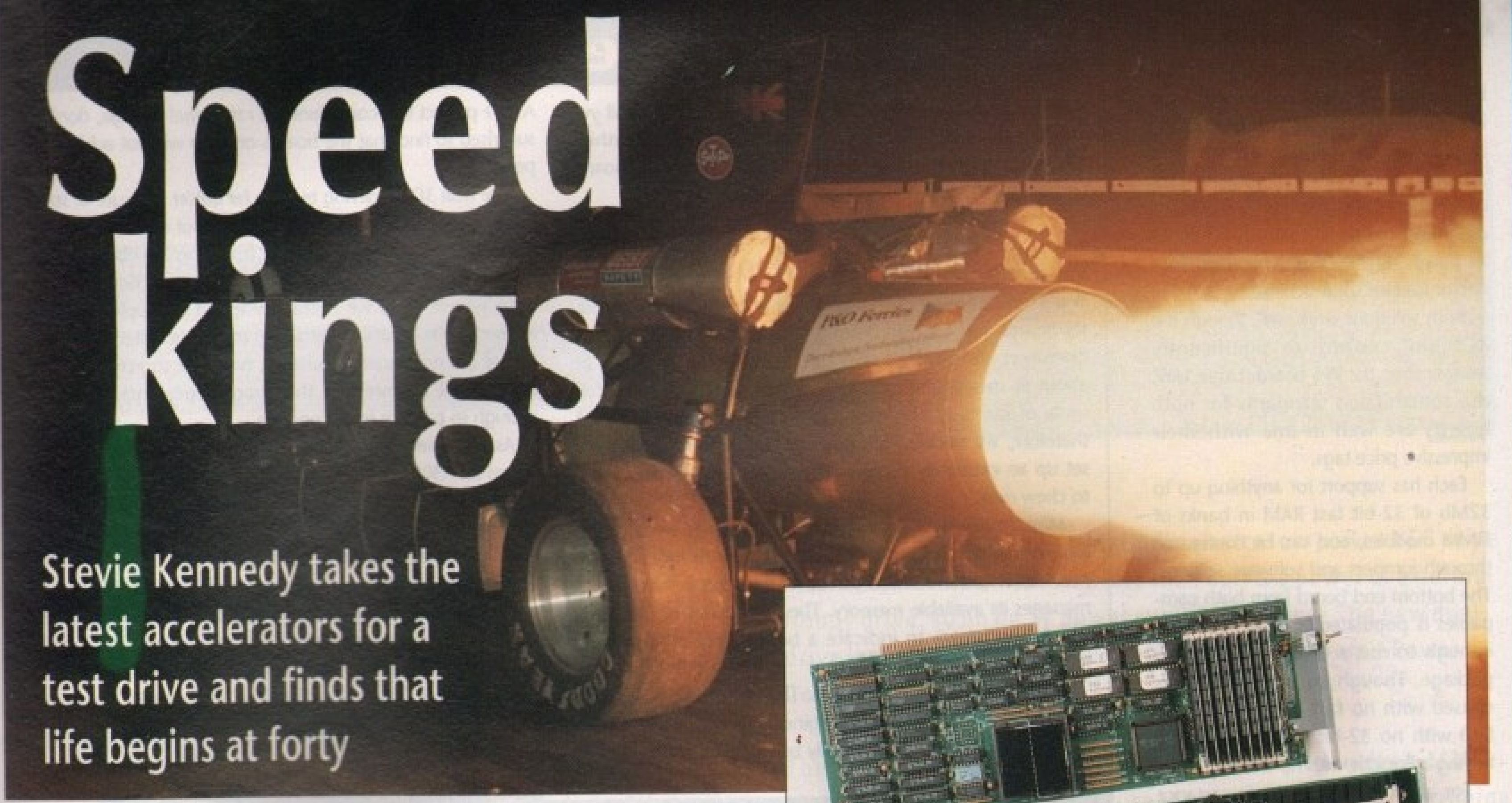
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Speed kings

Stevie Kennedy takes the latest accelerators for a test drive and finds that life begins at forty

The hare and the tortoise; Achilles and a lump of inanimate material firmly cemented in bedrock; spending a fiver on Friday night; and a train journey to Ipswich – all of these would serve to highlight the relative differences in speed between the standard Amiga 68000 chip and the new 68040.

This month at *Amiga Computing* we donned our Dick Turpin outfits just long enough to hold up two of the hottest new boards on the highway and give them a thorough examination.

The Motorola 68040 chip is the new Rolls Royce of the Amiga world, and the eagerly awaited release of 040-based slot-in upgrade cards for the A2000 has lifted the machine's power to heights from which it can sneer in a decidedly down-the-nose manner at the fastest PCs around. If you thought the 68030 was good, you ain't, as the saying goes, seen nothing yet.

We examined a selection of accelerators in our April issue, the fastest of which were based on the 33MHz 68030 chip, and the slowest of which were 16MHz 68020 or even up-clocked 68000 solutions to the speed problem. The 68040 is twice as fast as the fastest 030 available and would knock spots off an 020. I shudder to think what it'd do to a 68000 if it ever slowed down enough to take a swipe at one.

Three manufacturers have so far released 68040 cards, and we tested those built by Progressive Peripherals & Software and RCS Management Inc. The CSA Magnum 040 wasn't supplied, so I can only guess how well it will run.

Unfortunately, neither PPS nor RCS included 68040-specific test software with their boards, and I couldn't find benchmarks coded to make full use of the new chip. It therefore follows that the speed ratings, though lower than the 68040's capacities, are an accurate measure of how the new chip operates with existing software, which is more important to the end user than a bunch of techie-head specifications.

Chips twice, please

Motorola's 68040 is more than an extra number on top of the existing 68030 chip – it is a radical jump forward in terms of both large scale integration and speed. The 68040 is so densely populated, you couldn't cram any more components into it if you stuck a "free mortgage for first time transistors" sign on it.

The 68030 chip contains about 300,000 transistors (it could be 300,001 but I lost count), which some might think a fairly generous number. The 040,

Cheap alternative

With the release of the 040 boards as the new standard for ultimate acceleration, it was inevitable that the price of 68030 boards should start to fall. The new Microbotics range is the cheapest yet and promises to provide an entry point for users who might not otherwise have considered speeding up their Amigas.



The VXL-30, in its most basic form, is a 25MHz 68EC030 chip, with space for a maths co-processor and an edge connector for the addition of up to 8Mb of 32-bit RAM via the Microbotics Ram-32 board. If you buy the basic board, you can then upgrade at your leisure by adding an FPU and extra RAM when your pocket allows.

The VXL-30 fits into your 68000 slot and holds the original chip in piggyback fashion, comes with friendly installation software, and is more or less completely transparent once fitted.

Why the EC? The 68EC030 is a cheaper version of the 68030 which doesn't have a Memory Management Unit (MMU). These are great if you're going to do a lot of kickstart ROM shadowing, but fairly useless in any other situation, so the cheaper chip is not a second class offering. Commodore themselves have asked developers not to produce software which utilises an MMU, and the latest Workbench 2.04 will ignore this feature of the 030 chip. The EC version of the 030 is therefore an excellent chip to use on low cost accelerators, and the VXL-30 is a recommended buy for those on a tight budget. To make best use of the VXL-30, a Ram-32 board is required to allow the processor access to fast 32-bit memory. As we were testing the entry level board for ray tracing, we used the version with 25MHz 68882, but no fast RAM.

The VXL-30 is a product of MicroBotics Inc, 1251 American Parkway, Richardson, TX 75081.
Supplier: ZCL Ltd
Prices: (25MHz 68EC030 with 25MHz 68882): £409
Ram-32 (2Mb): £199
Phone: Helen Boot on 0543 251275 for local dealer information

Ease of use

Implementation

Value for money

Overall

however, contains 1.2 million transistors, so it quickly gets a little hot in there.

To deal with the problem of heat build up, RCS have bolted an ugly-looking heat sink on top of their 040, giving the chip the appearance of a Sticklebrick. PPS have adopted an altogether cuter approach by strapping a dinky little fan on the chip which draws its power directly from the edge connector via two soldered links.

Both solutions work well, though the RCS unit cooked up significantly warmer than the PPS board. Either way, the construction standards for both boards are well in line with their impressive price tags.

Each has support for anything up to 32Mb of 32-bit fast RAM in banks of SIMM modules, and can be configured through jumpers and software settings. The bottom end board from both companies is populated to 4Mb, which is enough to run a CAD or ray tracing package. Though both could be purchased with no fast RAM, to buy an 040 with no 32-bit RAM is a bit like buying a Porsche with no wheels.

For an illustration of the importance of fast RAM to these boards, have a look at the test results for Microbotics' VXL-30 board. This excellent new entry-level accelerator has a 25MHz 68EC030 and 25MHz 68882, but no 32-bit RAM without the addition of the RAM-32 board. Despite sporting a mips count to rival an A3000, the VXL-30 slowed down on the Real 3D test as it was forced to use normal Amiga memory chips to render the image.

Installation

Sometimes the most problematic area when installing high end kit is the new board's system friendliness. Some slot-in units will happily coexist with your existing setup, but others will require either a lot of tweaking or a change of equipment.

For new owners of 68040 boards, the most common problem will be that their hard drives aren't fast enough to keep up with the new processor. Any hard drive with an access time in excess of about 11ms will experience problems, and disk accesses can then cause the system to lock up.

The Progressive board scores highly in this department, as it works well with every hard drive I've so far tested it on, including a Quantum ProDrive and an Impulse Plus. Both of these are fairly speedy drives, but are common enough nonetheless. The Fusion Forty fell down badly in terms of its stability and its friendliness.

The board seems to be quite fussy about which equipment it will talk to, and it was only really communicative when used with the Quantum ProDrive. Once installed, the problems disappeared and the board worked very smoothly, but the software included with our board was less user friendly than the Progressive's and harder to install.

The Fusion Forty's installation demands that your startup sequence be altered so that you are given the choice of whether or not to start in 040 mode. The board will not just kick up like the PPS unit, and as a pain in the backside, the whole installation process came a close second to sitting on a broken milk bottle.

The Progressive Peripherals board, on the other hand, was easy to install and worked well with most kit. There's no need to mess about with startup sequences – the board will kick up in 040 mode as long as the software has been installed.

Early boards were shipped as WB2-compatible only, so early users might have had to install the early version Kickstart 2.0 ROM included as part of the package. The board also requires that the Commodore 68040.library is installed in your LIBS: drawer, but as both the Kickstart rom and the library are officially licensed from Commodore, their inclusion speaks highly of the board's "legal" design.

The tests

This is a tricky one. When it comes right down to it, all you can say about 68040 boards is that they're fast. Everything else is a purely subjective comparison of how well the boards run when pitted against cheaper and slower boards.

Gobbledegook

You'll often come across huge lists of test figures for accelerator boards, most of which are of interest only to system programmers and engineers. The vast majority of tests will be about as meaningful to Amiga owners as the chemical formula of monosodium glutamate. As a measure of speed, therefore, we decided to carry out standard mips tests and set up an extremely complex Real 3D image for the boards to chew over.

Mips (millions of instructions per second) are a purely internal measure of a chip's speed, as they do not measure how fast it communicates across its data bus or how well it manages its available memory. The mips count is, therefore, just a benchmark to indicate a board's potential performance.

One final warning about mips. The Motorola 68040 chip, as tested by Motorola's own engineers, is capable of a peak of 19.2 mips, and can't physically be made to run any faster. As the perfect test conditions are rarely met though, don't be surprised to find that the boards on offer will not achieve the peak figure.

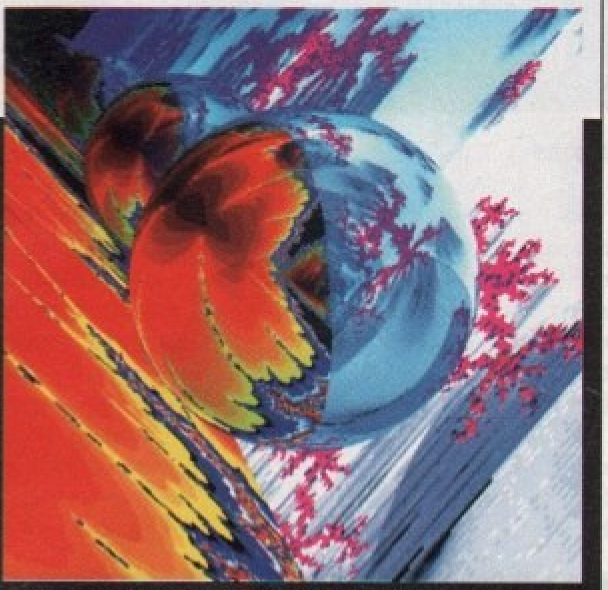
The Real 3D rendering test is a far better measure of speed as it is the sort of application most users of 68040 boards will want to accelerate. Our image, from the 3D-obsessed Paul Austin, is a chrome ball trapped in a V-shaped box of mirrors onto whose sides we texture-mapped a couple of fractal images. With recursion set to 10 (the light reflects 10 times before it is no longer calculated), two light sources, and anti-aliasing set to level six, the image represents a test stiff enough to pass for ferro-concrete.

As you'll see, the 040s worked out almost three times as fast as an A3000 running at 25MHz, and over twice as fast as a 33MHz GVP 3001 with 50MHz 68882. We didn't bother running the Real 3D test on a standard Amiga as we would have had to use a different version of Real 3D.

The 030 and 040 boards were tested on the Turbo version, which is specially coded for the faster chips. In any case, we didn't fancy the approximately ten hour wait for an A500 to finish the rendering!

Test results

System	Mips Test	RealD Render
A2000	0.827	–
A2000 + PPS6840 + 4Mb fast RAM	16.667	26m 2s
A2000 + Frisian Forty + 4Mb fast RAM	15.271	27m 32s
VXL-30 with no fast RAM	7.573	4hr 10mins
A3000 with 4Mb fast RAM	7.575	1hr 20mins



A stiff test even for the 68040 boards, this Real 3D image is an ideal measure of practical speed

The 2000/040 is a product of Progressive Peripherals and Software Inc, 464 Kalamath Street, Denver, CO 80204
Phone: 0101 303 825 4144
Supplier: Marcam, phone 081-941 6117
Price: US $2,430 (with 4Mb RAM) UK £1,937 (with 4Mb RAM)

AWARD BLUE CHIP

Ease of use

Implementation

Value for money

Overall

Ease of use

Implementation

Value for money

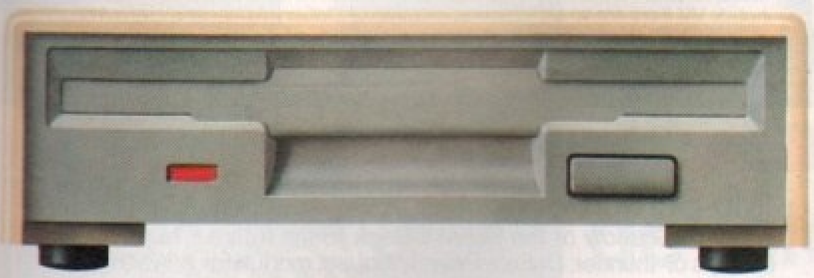
Overall

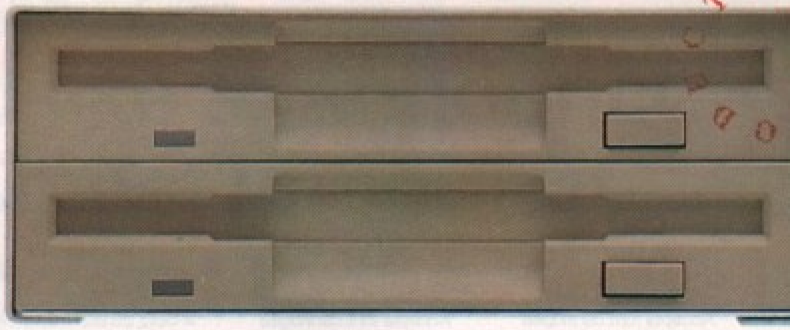
The Fusion Forty board is a product of RCS Management Inc
Supplier:
Power Computing, Woburn Road Industrial Estate, Kempton, Bedford. MK42 7PN.
Phone: 0234 843388
Price: £1,999 (with 4Mb RAM)

Conclusion

Overall, though both units offer blistering improvements in speed over any existing accelerator, the Progressive Peripherals board struck me as being both faster and more user and system-friendly. As it is now being shipped in a completely WB1.3 compatible guise, it is at the moment the best choice for the high end user with the mule-choking wallet.

Where you can stick it.





Viruses, disk swapping, clicking drives, disks which won't back up. Is there no end to the whingeing of the Amiga user?

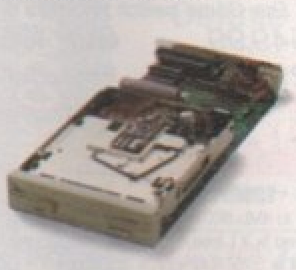
At Power, we want to tell you just where you can stick your disks and worries. In fact we will show you. The slot in this picture belongs to our PC880B, the first intelligent disk drive. Insert a disk.

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When you do not want these features, switch them off and the PC880B will sit quietly, without clicking, pretending to be simply an extra drive.

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EDUCATION

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The classic whodunnit game comes to the Amiga with Greg Pryor's Cluedo™ clone

Give 'us a CLUE



THE

Hands up all those who don't know how to play Cluedo. There can't be too many people who've never played one of the most popular board games of all time, but there will be plenty who are unsure or who haven't played it in donkey's years, so I'll recap on the rules. If you're a Cluedo connoisseur, skip these instructions and get on with the investigation.

Clue is played in exactly the same way as the board game Cluedo. A murder has been committed and there are anything from two to six suspects, depending on how many people play the game. Your job is to find out who did it, what weapon they used, and in which room they killed the victim.

At the start of a game, you are dealt a number of cards from three packs. One pack contains the weapons, one the rooms, and a third the suspects. Before the cards are dealt, however, one card is removed from each pack and stashed in a little black bag. These cards now describe who did it, where, and with what.

The object of the game is to move around the "house", making suggestions as to how the crime was committed until you can deduce which three cards are in the bag. For example, you might suggest Colonel Mustard with the knife in the library. I always said the old ex-Indian Army man had a maniacal glint in his monocled eye!

Cards out!

If one of the other players has a card relating to one of the elements in your suggestion, they must show you the card, thus eliminating it from your enquiries as you can now be sure it isn't one of the cards in the little black bag. You go on in this way until you feel sure enough to make an accusation, at which point you either win the game, by being correct, or lose and have to sit out the remainder of the game if you get it wrong.

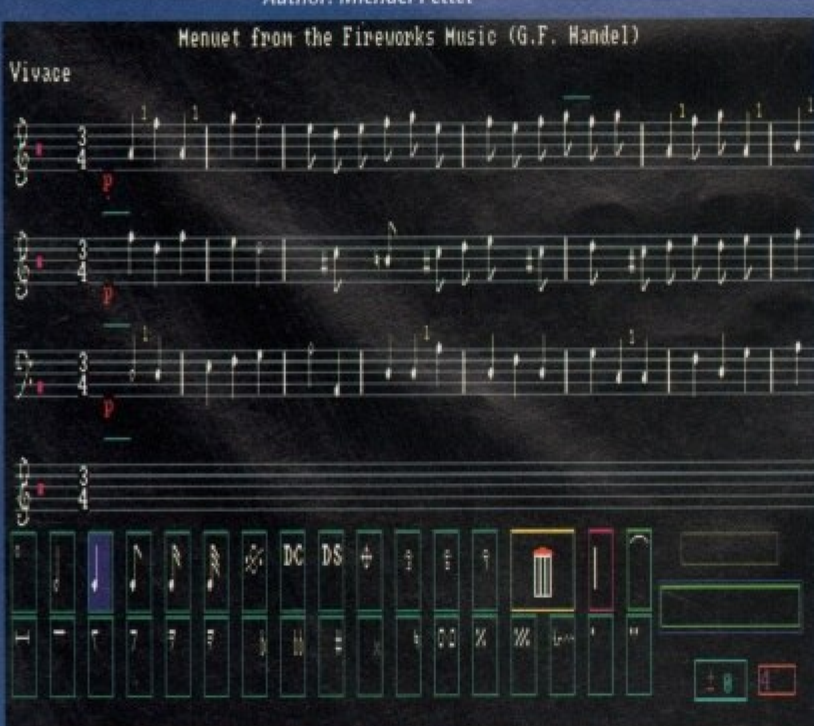
A second important element is to observe which suggestions your opponents make and who shows them a card. You are allowed to know what the suggestion is, but can only know that so-and-so showed a card in response to it. This means you have to guess which cards your opponents hold before they guess yours.

The only sure way to win at Clue or Cluedo is to out-guess your opponents, because if you wait until you've been shown all the cards they hold, it'll be too late. Taking risks early on in the game can lead to false accusations and an early bath, but there soon comes a times when everyone is getting close to the answer and you have to make a finely balanced judgment about when to point the finger.

This is the essence of the game's appeal, and has ensured it massive worldwide sales as a board game. Thanks to the *Amiga Computing* CoverDisk, you can now take on your

Composer

Author: Michael Pettet



This should look familiar if you're a music student, but don't be daunted if you're not!

This utility is an invaluable aid for anyone attempting to learn to read conventional music scores, or those with traditional musical training who don't relate easily to computer sequencers such as MED. In composer, all music writing takes place on an accurate representation of a piece of sheet music complete with four voices for a variety of musical instruments.

Composer is designed to enable the author to write and play back his or her piece, then output the score to an IFF file ready for other musicians to read from it. The IFF file, which is in effect a screen dump of a single page of music, can be set on paper using a dot matrix printer, but users who opt for hard copy should be careful to set the image to "negative" on the Graphics1 preferences screen.

This is essential, as the IFFs resulting from a Composer print are white on a mostly black background, and you could waste the best years of a ribbon's life on a long manuscript. To print an IFF, the easiest method for most users would be to load it into DPaint and print from there, which also gives you the option of fiddling with the palette controls until white and black are effectively reversed. Crude, perhaps, but useful if you harbour a morbid fear of the preferences screen.

Making music

Erm – can't tell you much about this side of things as I'm about as musical as a pneumatic drill at five in the morning. If you're learning the art of sheet music, or would prefer to compose pieces on the computer using traditional notation, then you're quids in. Others with little or no knowledge of sheet music will find using Composer a little more difficult.

You needn't be put off, however, by the complicated nature of music in this form. If you only learn the difference between a semibreve and a quaver – please tell me if you do! – and suss out what the ridiculous Italian tempo measures mean, you can make perfectly good use of the program.

Composer has the same advantages as programs like MED in that you can

The Disk that no drive can afford to be without – because it's free! TWO FULL GAMES, one tune and three great utilities!

DISK



computer in the hunt for the evil swine who bashed poor Miss Scarlet's head in with a candlestick, and in the kitchen, too, of all places!

To begin the game, click on the names of the characters you want to take an active part. You can only play one person against the computer, but if you like you can tell the computer to play all the other characters.

Just click on the character you want to play and on those the computer will play. By clicking on OK, you will be asked to confirm your choice of playing piece. Now the game begins in earnest.

The centre of the board contains the icons for rolling the die, making a suggestion or accusation, or ending your turn. The right hand third of the screen contains the reports panel, which will show who has made which suggestion and the responses of the other characters. If a suggestion is made which contains one or more of the cards in your possession, you will be given a choice of which one to show the person making the suggestion.

The bottom right-hand corner of the screen contains the lists of cards in your possession and a number of small icons. Each item in each list has a square outlined in white beside it which will be filled in depending on what clues you have deduced.

All cards in your possession at the start of the game have a red exclamation mark in the box, and those shown to you by the various characters as the game progresses are filled out by the colour of the person involved. For example, if Colonel Mustard showed you the Ball Room card, then the Ball Room, in the Rooms list, would have a ➤

play around with it to your heart's content, placing and moving notes wherever you like. As it also supports all four Amiga voices, it is at least as flexible as its sequencer cousins.

Help!

If you find yourself lost in a sea of staves and flat minors, Composer has a comprehensive help function on its own menu. Topics available range from placing notes on the screen, to a breakdown of all the program's menus.

Shareware

Composer is a shareware release, so if you get some mileage out of it, send a fiver to: Michael Pettet, 26 Norlands Crescent, Chislehurst, Kent BR7 5RN.

In return, Michael will send you a whole heap of extra modules to expand the Composer system. He claims to have almost 3Mb of them, so you'll be getting your money's worth!



Save £££'s in phone bills with OLR2's comprehensive bundling features

OLR2

Author: Calibre Systems

The poetically named OLR2 is an offline mail reader and bundler for users of bulletin boards and will be of use only to those with access to a modem. If you don't have a modem, you won't have any use for OLR2.

OLR2's most useful feature is that it can be used to collate your replies to E-mail offline, sort out where you want them to go, and upload them with the minimum of online time and expense. Please note that OLR2 will only work properly with Dialogue bulletin boards.

There's a manual on the CoverDisk for OLR2, so if you plan to use it there's no excuse for not knowing how it works. If you get stuck with anything – and BBS users should be familiar with most of the basic principles in any case – refer to the manual. You can print it out if you like, but be warned you'll have a long wait.

Shareware

OLR2 is a shareware release, and you should register with Calibre Systems if you plan to use it more than once or twice. To register, send £10 to: Calibre Systems, 24 Sixth Cross Road, Twickenham, Middlesex TW2 5PB

You will then be entitled to free program upgrades and customer support. When you think how much you'll save on phone bills by using OLR2, it's clear to see that the registration fee will pay for itself in no time.

Tune of the Month

Author: Chris Pettet

This month's tune is very silly. It's called OldMac and is a rendition of the classic Old MacDonald's Farm, complete with a variety of farmyard animal samples and a lively bass line.

If it makes you laugh half as much as it made us, you'll be in tears.

How to use the Disk

First of all, you must make a backup copy of the CoverDisk. To do this, boot up with your copy of Workbench, then double click on the Workbench disk icon, followed by the Shell or CLI icon. Now type:

DISKCOPY FROM DF0: TO DF0:

or, if you have an extra disk drive, put a blank, formatted disk in DF1: and type:

DISKCOPY FROM DF0: TO DF1:

Follow the onscreen prompts until the copying procedure has ended, then put your original disk away in a safe place. Now switch off the machine and wait for 30 seconds before rebooting with the copy. Wait until the CoverDisk icon appears, double click on it and away you go.

That's all you need do to make a straight copy of the entire disk. However, you may also want to to copy individual programs from your copy of the CoverDisk to a separate disk. In this case ensure that you fully understand which related files need to go with it.

For example, all of the document files on the disk require that the text editor PPmore is in the current disk's C: directory. Therefore, if you copy the docs to a new disk you will also have to copy PPmore to the new C: directory before you can read them.

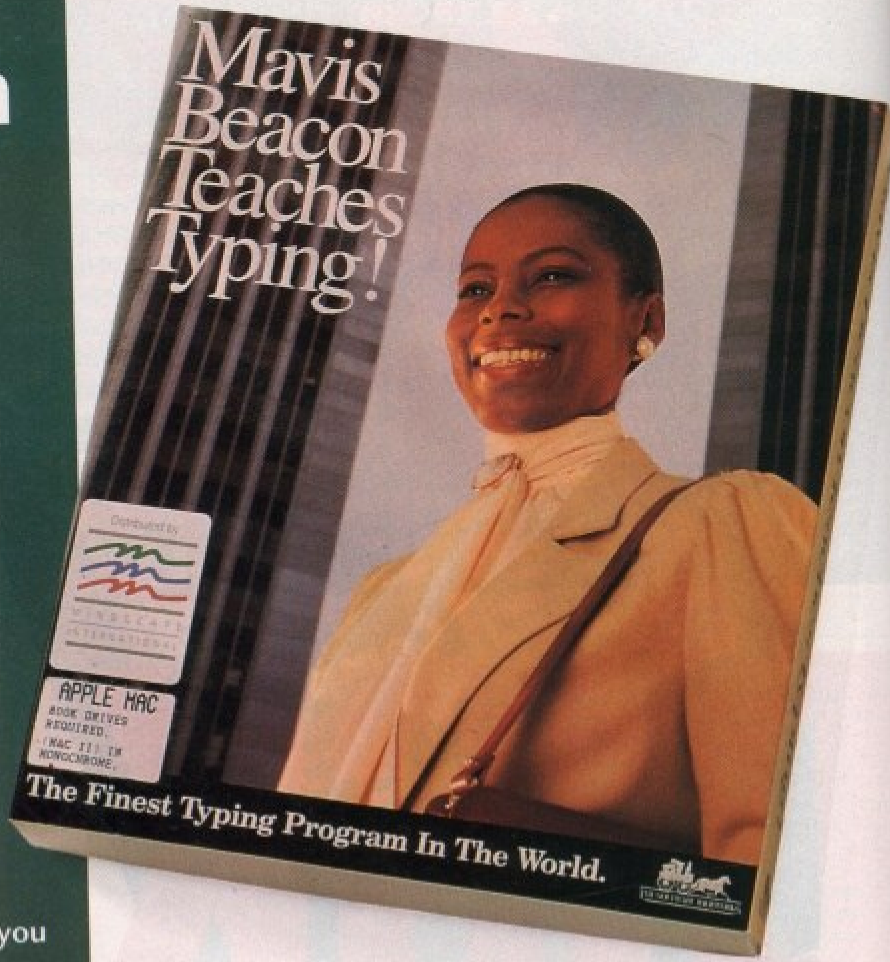
Some of the smaller docs will not have been crunched, so for these you need only change the tool types on the icon's info screen to reflect whichever text editor you do have on the new disk.

As a general rule, you should carefully read the documentation for any program you copy from disk to disk.

This can save a great deal of messing about and can help you avoid all those infuriating error messages!

Mavis Beacon Teaches Typing

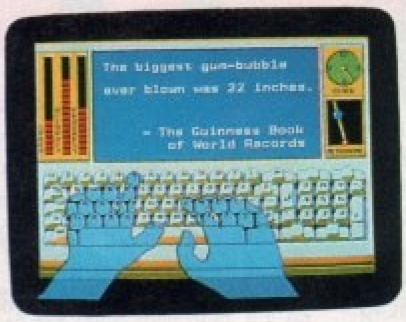
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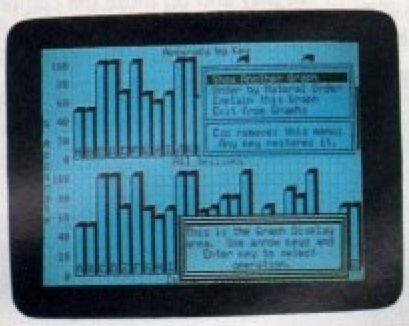
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Zut Alors!

Author: Brian Asbury

Zut Alors! is a tongue-in-cheek text only adventure in which you play the part of Cyrano de Bergerbar, a young blade recently arrived in Paris to seek his fortune. Cyrano has a burning ambition to join the King's Musketeers like his idols Athos, Porthos, Aramis and D'Artagnan. To win, you have to become a Musketeer.

Orders can be in the form of simple two word commands (GET SWORD), although you can happily use articles and conjunctions and even adjectives in some cases (for example, GIVE MY TRAVELLING CLOTHES TO COLONEL SELASTIQUE). Orders can also be strung together (TAKE THE LAMP, GO NORTH, GET THE BAG OF MONEY) or applied to multiple objects (TAKE THE KEY AND THE FOOD or EXAMINE EVERYTHING).

A feature I hate about text adventures is the "how do I get through the first door?" syndrome. Zut Alors! has more than one solution. You can wander around Paris to your heart's content. There are no puzzles of the illogical "put the red gem in the elf's left sock to make the blue key appear in the bath" variety, although some events are dependent upon others happening first. You have been warned!

The vocabulary

The following is a list of the acceptable verbs used in the game. There are one or two others not listed here, but they are there merely as alternatives to those listed, and are not vital to gameplay. I'll leave you to find them for yourselves.

LOOK (L), STATUS, QUIT (Q), TAKE, WEAR, SCORE, DROP, EXAMINE, GO, MOVE, GET, INVENTORY (I), GIVE, PUT, REMOVE, MOUNT, DISMOUNT, TETHER, BUY, LIGHT, READ, EAT, SLEEP, EXTINGUISH, HAVE, DRAW, SHEATHE, GRAB, FIGHT, ATTACK, DRESS, UNDRESS, HELP, WAKE, KNOCK, ENTER, INTERVIEW, MAKE, TURN, THROW, TIE, KILL, HOOK, CHARGE

In addition, there are some special commands meriting a bit of explanation;

BRIEF – Turns off long location descriptions.

VERBOSE – Turns 'em on again.

WHERE – Will sometimes give you the location of an object or person, e.g WHERE IS ATHOS? Don't rely on it, though.

WAIT – Advances game time by about eight hours. Useful if you want to enter locations which are open only at certain times of day.

SAVE/LOAD – Saves the present game position, or loads a saved game.

The compass

At the top of your Zut Alors! screen is the compass. This is a feature unique to Hatrack II games, which allows you to execute a number of common commands using the mouse instead of having to type them directly.

The compass rose has pointers for all eight standard compass directions (N, S, E, W, NE ,NW, SE, SW). Simply click on the appropriate sector of the rosette to move in the direction you want.

To the right of the rosette are four arrow gadgets, again for movement in given directions. The top two are for moving up or down, the bottom two for moving in and out of buildings.

Finally, to the left of the rosette are five box gadgets. Clicking on these executes the command word in the box.

INVENTORY will list the items you are carrying and also tell you what you are wearing and how much cash you have.

STATUS tells you how long you have been playing, how far you have progressed in the game ,and how strong your character is.

LOOK describes your current location.

Y and N are YES/NO gadgets for answering YES/NO questions within the game.

Shareware

Zut Alors! is a shareware release, so if it makes you laugh send a fiver to: Brian Asbury, 8 Rectory Gardens, Armitage, Nr Rugeley, Staffs WS15 4AL.

In return, he'll send you a mini-adventure and the Hatrack II Zut Alors! source code for you to mess about with – as long as you've got the Hatrack II program, that is.

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filled mustard-coloured box on the right.

If, by trial and error, you decide a certain weapon was not used, you can click on either the green exclamation mark or the question mark and use those to remind you that you've sussed out this particular item.

The way you play the game, how much intelligence you allow the computer to utilise, and what system you use to keep track of the various suggestions made and the responses of the other characters – all of this is up to you. The only secret in this game is to pay attention to all details, and to apply a healthy dose of deductive reasoning.

Have fun!

Typist

Author: Martin Frost

Typist is a utility designed to help budding keyboard pilots improve their touch typing speed. That's the kind where you don't look at the keyboard and, needless to say, it is a skill totally lacking in the Amiga Computing offices.

Start Typist by double clicking on its icon in Workbench, or selecting it from our ShortCut menu system. When it kicks up you'll find a small panel with three sections.

The top section contains the typing window, the speed selector, and a button for "speedup" during the typing exercise. When you click on Start, a random selection of letters will scroll from right to left in the typing window. If they reach the left-hand side the exercise is over, so it's your job to correctly type the leftmost character, thus removing it from the screen. You will be expected to type not only lower case letters, but also upper case and the odd space or punctuation mark, so stay on your toes.

The middle panel contains a breakdown of how well you have scored in the exercise. It will give you an accurate word rate per minute and a record of how many mistakes you made in the total number of keypresses, and as you raise the speed at which the exercises are scrolled, these figures can become frighteningly embarrassing.

The bottom panel controls the selection of letters you will be expected to type. From here you can select which keyboard rows to include and which – if any – to exclude, whether or not to use numbers and symbols, and whether the selection can include upper case letters. The panel gives you more or less complete control over the sort of exercise you set yourself.

Think you can do better? Want to be famous?

We are always on the lookout for new, quality Amiga programs for the coverdisk. If you think you have written something good enough for others to share and enjoy, please send it in and we'll have a look.

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Please make sure you list ALL Workbench and other files necessary for the program to work. Feel free to design your own icons for progs which run from Workbench, but please don't make them too big.

If you ensure your program is as compatible as possible with a wide range of Amigas, it will also stand a better chance of publication. We are especially interested in programs designed to work with the A3000, although if they work only with the new machine they'll have to be quite small.

We are prepared to pay our current rates for original work which hasn't been distributed in any other way and which has not been put in the public domain.

If you wish your program to be released as shareware or freeware we will be happy to publish it, but would, of course, be happier if we'd been given it first!

Your submission MUST be accompanied by the submissions form, a copy of it, or a signed declaration to the same effect. Please supply your full name address and phone number.

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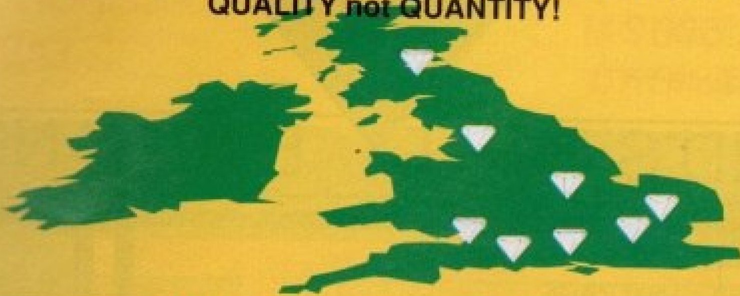
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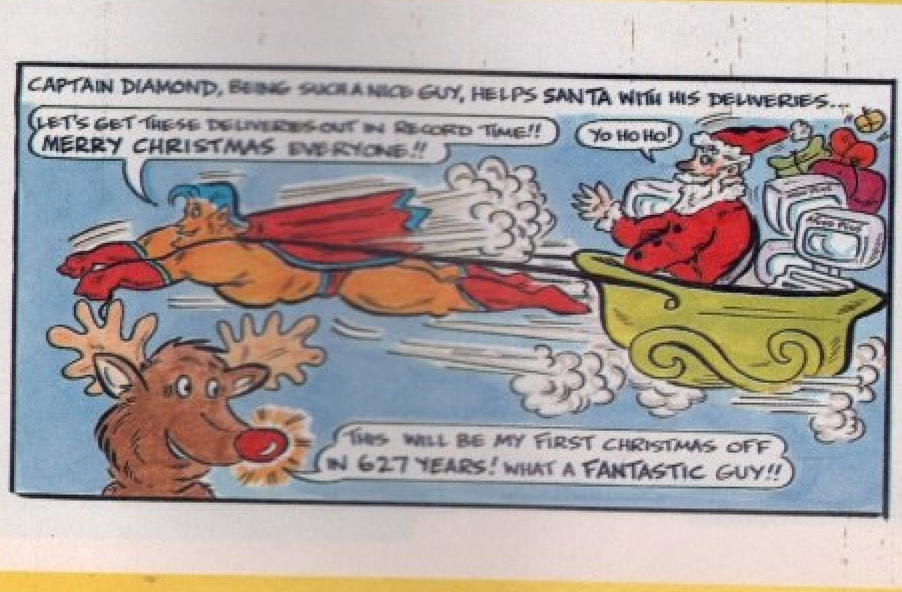
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Paul Austin puts G2 and GVP head to head in the great pixel punch up...

33,000,000 colours, two packages, all the answers

The long awaited 24-bit revolution is upon us and as a result everyone with a spare PCB and a soldering iron is busy gluing chips to plastic in a desperate attempt to cash in on the mountain of sweaty palmed artisans that are just itching to spend their hard earned cash to get in on the act.

Up until a matter of weeks ago there was only one choice if you wanted to put mouse to canvas in the 24-bit art world. As you're probably aware the Harlequin framebuffer plus TVpaint was the only way for Amigans to paint with anything approaching an infinite palette.

Now this Celtic dominance may soon come to an end, due in part to the contenders in this month's head to head. Neither of the new players can match Harlequin for resolution but for those who need more than just pure image quality the race is well and truly on.

With both G2's and GVP's boards you not only receive the essential hardware but a whole range of additional software which builds up into a complete 24-bit workstation.

The programs

Because of the wide range of talents crammed into both systems it's impossible to do them justice with only four pages, so this month I'll examine both paint programs and follow up next month with the definitive guide to the boards themselves and of course all the extra goodies that come with them.

Just in case you can't wait and of course to make sure you tune in next month, here's a brief list of just what's been included with both bundles to sweeten the pot for you, the eager consumer.

GVP open the betting by including not only Macro paint-IV24 but also Caligari-IV24, Scala-IV24. All these famous names are special 24-bit versions designed specifically for the board, but as yet I've not looked at what's been excluded or added in relation to the original Amiga versions, so I'm afraid you'll have to wait until next month for all the juicy details. They'll make a marketing man of me yet...

Not to be outdone G2 have added The Art Department Professional to their board plus the mandatory paint package entitled Imagic but unlike the GVP package the Imagic paint program isn't inclusive in the price of the board.

In G2's defence ADPro is a near essential if you're working with any serious Amiga art so it's a very pleasant addition and a must for any Amiga based graphic artist.

Live grabbing

As I mentioned earlier neither of these new boards can compete with the resolution of Harlequin but the one thing both can do that Harlequin can't is grab direct to the board via a live video source or alternatively genlock or key frame video images direct onto Amiga imagery.

Both packages grab at 1/50th and 1/60th of a second which translates to the broadcast standard of 1/25th for

European or 1/30th for NTSC. This reduction in speed is down to our old friend interlace which requires two signals to produce its imagery. Interlace is employed on every TV and video system both here and over the pond, so both boards match up perfectly. A dream come true for DTV fans.

Because each board can match broadcast rates a new age in digitising has arrived allowing the Amiga to capture imagery direct from the studio or video without any degradation. Only months ago frame grabbing in Ham with its 4,096 colours seemed impressive enough but now we have the resolution and quality that only 24-bit with its 16,000,000 plus colours can provide.

Because of these grabbing abilities both systems have a lead on Harlequin, which at present doesn't support frame grabbing internally.

If you want to employ such trickery with the Harlequin you'll have to invest in an external frame grabber and import the results from disk. A slower and a good deal more expensive undertaking.

Macro paint

At long last we reach the first of the two contenders. As I mentioned earlier, Macro paint is the GVP package which like the other programs in the GVP bundle is a 24-bit revision of an existing Amiga program. If the name doesn't seem familiar don't be surprised as it was never particularly popular in its original form.

Now before we go any further, an explanation is in order. Because the 24-bit version of the package is very new indeed it was only possible to examine the Gamma test of the software.

If such terminology is all Greek to you, a little explanation may be useful. Gamma means it's definitely not a finished product, in fact magazines and developers usually only ever receive Beta tests of unfinished software. So if you can tell a donna from a shish, you may have guessed that Gamma means a very early version indeed.

Having said that the framework for the package is already there thanks to its Ham-based predecessor. As a result, it's only the code that should require attention.

At the moment the software is painfully slow, with fills taking on almost ray tracing proportions. The same is true for any major cut and paste operations which make even an unaccelerated Dpaint4 look positively speedy.

On the plus side is the quality of the images from the hardware/software combination. Because both the board and paint package are capable of higher resolution than that of G2's the images are that little bit sharper and a touch smoother when blown up as a brush. It's obvious from using Macro Paint that there's huge potential within the board which Macro Paint is doing a good job to suppress, thanks to a combination of slow processing and limited painting tools.

Strange

It's fair to say that Macro paint is a strange package. For example the brush controls feature some of the best options I've yet seen, with various boolean operations, transparency controls, colour filters and numerous image processing options, and yet there is no texture mapping which, as you can see from the Imagic images, can produce stunning results.

Another example of Macro's individual approach is the region option which again is a feature peculiar to this package. It allows you to define an area of the screen which can then be processed in a similar way to a brush.

So for example component colours



Brush control in all its glory. Perfect 24 bit imagery direct from the the TV



Macro paint's region option adding its own special skills to the eyes of Stevie Kennedy

Capturing the moment

This option to grab direct to the boards is sure to win many friends in TV and video but before we go on to the paint packages themselves it's perhaps best to clarify how each board handles the process of importation in relation to their own paint packages and exactly what is involved if you're trying to add these images onto you canvas.

G2's grabbing talents

With both boards grabbing isn't quite as simple as just plugging your VCR or camcorder directly into the back of the board, as both systems need a little assistance converting the output from the source into a format which the framebuffer can understand.

In G2's case this process is slightly simpler than that of GVP which can takes both composite and RGB signals. G2 on the other hand works only with RGB and as a result it needs a RGB signal converter which will translate the composite source from either a camera or VCR into an RGB signal which is then fed into the board.

Once connected up it's all plain sailing as the paint package itself has options built in which allow you to grab from a video source whenever necessary, something which GVP's Macro paint cannot yet manage. All that's required is a quick trip to the Special Effects controls which give you three options as to what can be done with the incoming signal.

Before you try to import the images it's wise to select the external sync option which transfers the synchronisation to the external video source. If the sync is left on the internal setting things soon become a little confused, especially the operator.

OK, after the selection is complete the next choice is either to simply View the incoming video onscreen, which has obvious advantages, not least of which is to allow adjustments on the camera or VCR.

The next option is to capture the image, which simply pastes the entire screen onto the canvas. Initially this works exactly as the View option until the mouse button is hit. This freezes the present image and returns the software controls to the screen, ready for editing or perhaps a second attempt at the grab.

The last of the trilogy is the keying option which allows you to genlock over a live video source into a predefined colour within your creation. This keying option works in conjunction with the stencil controls which we'll look at a little later.

This masking or stencil process can also be applied with the grab option, so only a selected area of your canvas is overwritten by the incoming video signal.

GVP's capture controls

Unlike G2's Imagic, Macro Paint cannot import external video direct from the framebuffer. It uses a different approach which employs the board's own control software, which will allow the display of composite video in a key frame format similar to that of the G2 board or alternatively as a grabbed image which is captured and imported via the board's RGB inputs.

Because Macro Paint in its present form doesn't support direct importation any grabbed images must first be saved and then loaded from disk into the program.

As you've probably guessed the GVP board positively bristles with inputs all of which flow to a single port on the rear of the board. In short if you want to genlock live video either over or under Amiga output you must employ the composite option but this does not support frame grabbing.

In order to frame grab you either require a source with an RGB output or alternatively a composite-to-RGB splitter which will provide the image in its component parts ready for the board to digest.

With both systems the expenditure doesn't stop with just the board and its software, so keep that in mind if you're thinking about balancing the budget.

The massive advantage that GVP has over the G2 board is its own built in genlock which means that genlocking can be done over or under any Amiga output. In other words it's not just limited to the paint package, so the genlock could be employed on any application via the control software.



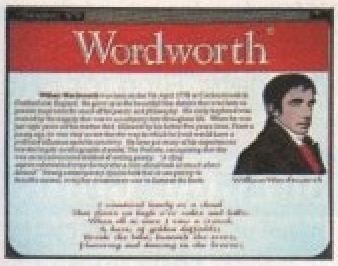
Image processing in action. A bit of cut and paste with the aid of Imagic's texture mapping talents

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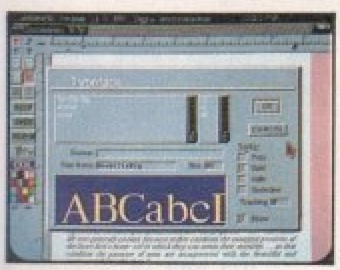
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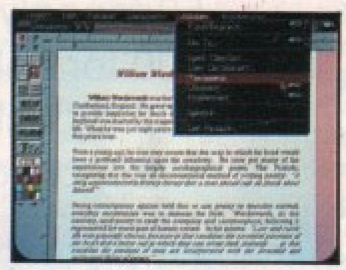


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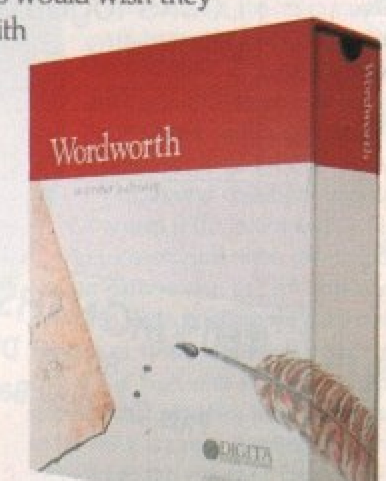


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Macro paints extremely smooth gradients thanks to the assistance of the invaluable extra res



One of the standard files showing just what Macro can manage

can be filtered or removed completely to produce a monochrome area, or perhaps the entire region flipped in the direction of your choice, lightened, darkened, sharpened or tinted – the choice is impressive.

All the old paint package favourites are on hand with the usual array of fill shapes and drawing tools, including a spray can which unfortunately isn't very impressive, but at least it's there, unlike its opponent in the G2 corner.

Tools

Like all the major packages most buttons have a bi-modular format, one click to activate, two clicks to bring up a control requester. All tools are activated from the mobile control panel but there's also a series of pull downs which allow access to special functions which control everything from project controls and region effects to spare screen access.

The last trick in Macro paint's repertoire is perhaps given away by its title. Yes folks it's our old friend ARexx, the all-singing all-dancing communication language which Macro Paint happens to speak fluently.

Four definable ARexx commands lurk behind a selection of buttons on the control panel, ready to launch the script of your choice at the click of a rodent. If that's not enough, the pull downs also have their own ARexx option which produces a requester ready to run any script direct from the Rexx directory.

The manual has a whole section devoted to the art of ARexx, so even novices should soon be able to bring its formidable weight behind their art.

A less than pleasing feature is the scale of the screen controls which seem to have fallen head first into the resolution trap. This is a similar situation to that of miniaturisation within consumer electronics.

For example who wants to watch a television the size of an atom? Nobody! But that won't stop some plonker building one. Unfortunately the same miniaturising mentality has befallen Macro paint. After all if you have ultra hi-res why not use it and make all the controls microscopic? I'll tell you why, because you can't bloody see em, that's why...

Anyone more than a couple of feet from the screen is totally lost and even if you're so close your hair drops out with the radiation it's still a bit of a struggle.

Now I know size isn't everything but there's one more thing before I dismount my lofty steed, and that's the standard brushes. They're piddling little things which even at their largest aren't anything like big enough, and to rub salt in the wound they're not definable so you're stuck with what's on offer.

Another infuriating oversight is the lack of a blend or smooth tool. Not something to lose much sleep over you might think but if you're trying to create a convincing transition between a brush and a background both of which contain hundreds of thousands of individually coloured pixels it's enough to keep you up all night and probably most of the following day.

As a result a smooth tool in the form of a standard brush is sadly missed. To be fair there is a smooth option available via the region controls which is fine for large areas but almost useless on finer detail.



Another mild irritation is the way in which the package actually applies the paint. Rather than showing the strokes as they're applied it waits until you're finished and then adds the colour you used, and as a result all painting is applied in the rather nauseating hospital green of the interface.

To be honest Macro Paint does seem a slightly strange choice as the opening paint package on a brand new board but I suppose GVP know best and to be honest I doubt it will be alone for long as there are strong rumours that an American company more famous for its kitchen appliances is already developing a paint program to run with the board.

All in all, Macro Paint has some excellent features mixed with some very mediocre ones but considering it's included with the price of the board it's hard to complain, especially when it's compared with the £395 asking price for level one of Imagic.

Imagic

Unlike Macro paint, Imagic doesn't claim to be a complete package, in fact the version reviewed is only part one of a two-part package which G2 claim builds into a complete, all-encompassing system that will cater for everyone's artistic needs.

At present module two of the duet is still in development so I can't comment on what exactly will be on offer but if it's on a par with its predecessor I doubt they'll be many people left wanting.

G2 explain their decision to split the system by mentioning that not all users require all the talents of the complete system and as a result users will only need to pay for what they need rather than leaving half the package idle but still having to pay the full price, which for both modules comes to a frightening £750.

Even without the extra module you'll be looking at £395 for the basic system so as you can see there is a price to be paid for the extra speed and convenience of Imagic.

The second drawback with the G2 system is the board itself, which is in technological terms rather dated in comparison with its GVP opponent. As well as the age difference there is the subject of flexibility. Here again the GVP scores high with a good deal more onboard features than the VD2001 but to be fair if it's pure painting skills that interest you this aspect of the two packages won't be a big issue.

Friendly front end

Imagic couldn't be further removed from its opponent. First the board is well established and has been on the market around two years. This has obviously made a difference during the development of the paint package – it's fast, smooth and simplicity itself to use with a large and friendly command window opening whenever the rodent is pushed to the top of the screen.

Once the command window is acti-

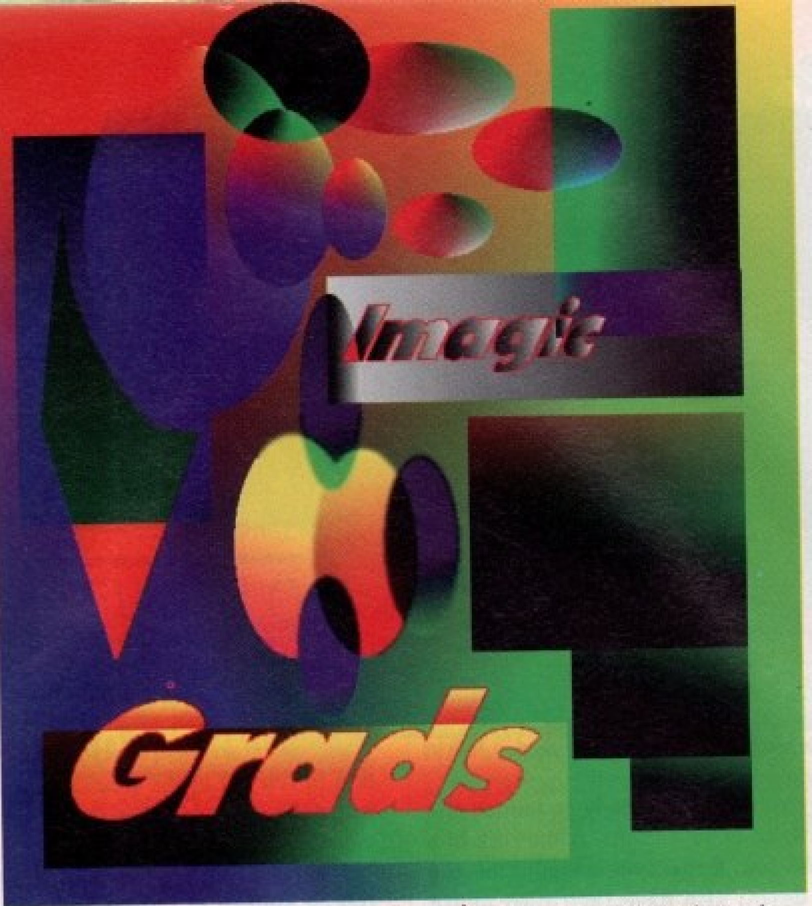


Some stunning examples of Macro paints excellent brush controls, if only it had texture mapping...

➤ vated you are confronted by the draw commands which again comprise of all the old Dpaint favourites complete with bi-modular icons which either activate or adjust the selected command.

The first choice is whether to access one of the four as yet unseen command windows which hold the defaults for brush, colour, special effects and disk access. Clicking on any of the above immediately replaces the present control panel with that of the selected function.

In the centre of the screen rest the paint controls themselves which divulge their talents after a tap on the right mouse button. Again this produces a replacement requester filled with the relevant controls.



The gradient talents of Imagic, plus some stylish effects thanks to the contrast and smooth controls

Surprises

As well as the usual array of fills, curves and zooms there are a few hidden surprises such as a brush cutter with its five separate cutting options. Clicking on any of the shapes either filled or outlined produces its own requester complete with options to either fill with either solid, gradient, filter or texture.



Clicking on any of these adds even more variety to the lively rodent's little world. The reason for all this extra choice within the icon of a humble polygon or sphere is that these shapes are used to employ the various filters, gradients and of course silly textures to areas on your creation.

Of course this isn't the only method of adding effects – in fact most functions can be added directly with the trusty fill bucket but for many of the effects, such as smoothing and filtering, an area defined by a standard shape is much easier to apply. As well as the above there's a reasonable choice of default brushes. Once again they're not resizeable, but unlike its opponent Imagic will allow you to cut a brush and paint with it without too much hassle. The only exception is when anti-aliasing is applied, as it does tend to slow the package slightly.

Anti-aliasing, as you've probably guessed, is another option available from the draw controls. It can be turned on or off as required.

Sharing the same icon with the anti-alias control are the remaining mode tools which can either add or subtract the selected painting colour from the image, so a blue could become brighter or perhaps erased completely.

It's almost like having a selective undo, but you have to be careful as any combination of colours can be completely changed..For example if you strip the red from a pink the stroke will still remain but now it will appear blue.

The last of the mode tools is contrast. This can be particularly impressive on gradients as it selectively lightens or darkens the affected area in relation to the currently selected colour. Some of the transparent effects in the Imagic Grads image are a prime example of contrast in action.

As well as the assorted paint icons come the usual selection of swap screens and undo's among which lurks the status requester. This constantly displays the state of the system in a similar way to that of Dpaint, which is handy if you're not sure whether you're about to apply a gradient or paste a brush.

Colours

The last section of the opening window has been saved for the all important colours, which are displayed on eight 64-pot palettes, each of which is selected by clicking on a miniature representation beneath the present palette.

The next control panel after the all-important draw controls comes the brush commands. Old favourites like rotate, flip and resize are almost mandatory for any self-respecting paint package, but along with these standard skills come the ability to adjust or retain the aspect of the brush, plus a useful transparency option which operates like a stencil by only allowing selected colours to be pasted onto the canvas.

After brush control comes colour control, complete with RGB sliders which allow manual generation of colour plus a grab option so you can pick colours direct from the screen. As you might expect, a full compliment of copy and range controls are available so literally any colour is possible. All of which can be placed in any one of the eight available palettes.

> *It's almost like having a selective undo, but you have to be careful...*

Special effects are next on the list and the options open with the digitising controls which were mentioned way back at the beginning of the article.

The second bit of trickery takes the form of stencil control which simply defines which parts of the image can be overwritten whether that be by paint, incoming live video or imported brushes.

Other controls

The Prefs control gives access to a number of predefined control panel colours but perhaps more importantly an option to hold the spare screen either in memory or on disk – very handy if you're working with rather limited memory.

Last but not least we have the disk controls which cover all the usual Load and Save combinations including palettes, brushes and of course pictures, not forgetting the useful sleep option which allows you to make quick trips to workbench to do those essential bits of tinkering with ADPro.

The final round-up

Now this is going to be tricky. Firstly for those purely interested in painting Imagic has to be the best bet, especially if you need a package that will produce the goods in a commercial environment with a novice at the controls sooner rather than later.

It's quite simply a doddle to use and does an excellent job even without the resolution that GVP can offer. Another scoring point for the board and its software is the imminent release of the Sally effects board which will work in conjunction with both the VD2001 and its soon to be release 32-bit big brother. Studio standard animated 24-bit video effects, tune in next month for more details...

On the other hand if you're looking for an investment the GVP package is almost impossible to beat with not only a paint package but an entire workstation included in the price of the board.

Another scoring point for GVP has to be its obvious attraction to developers thanks to all the powerful built in features such as genlocking, flicker fixing, picture in picture (PIP) display and so on.

Flexibility is the key to GVP's IV24, and if the developers follow it up as I'm certain they will, the company could be holding the industry standard as they did with their massively popular 030 board, which until recently was at the heart of almost every serious Amiga.

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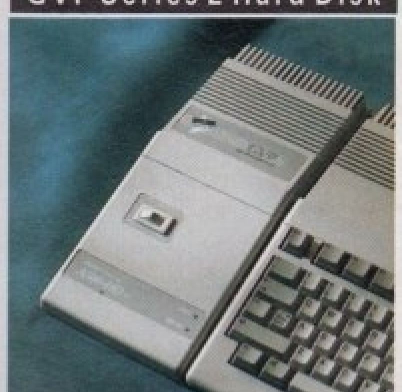


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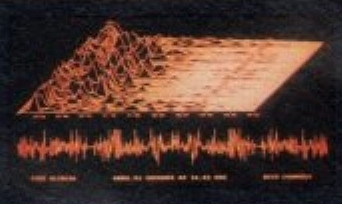
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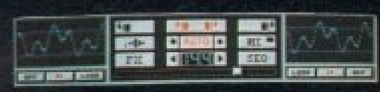
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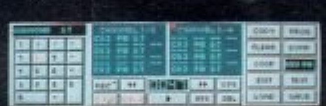
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RaceTrace

drag your art into the next dimension



A standard Amiga font extruded and texture mapped with the IFF image of your choice

At last a program that can do what all the dedicated 3D packages can only dream about

All those victims of virtuality out there may soon have their prayers answered thanks to a program that does the impossible, by converting a flat 2D image into a complete 3D object.

RaceTrace has the power to add the Z to the X and Y thanks to a very fast and powerful point and vector process which maps out all or selected lines and points within an image, ready for editing and extrusion.

Once the extra definable dimension is added, the object can be sized and saved in any of the following formats from Sculpt, RaceTrace, HPGL, PostScript, Digiworks-3D, Pro Draw clip or as either Real polygons or polyhedrons.

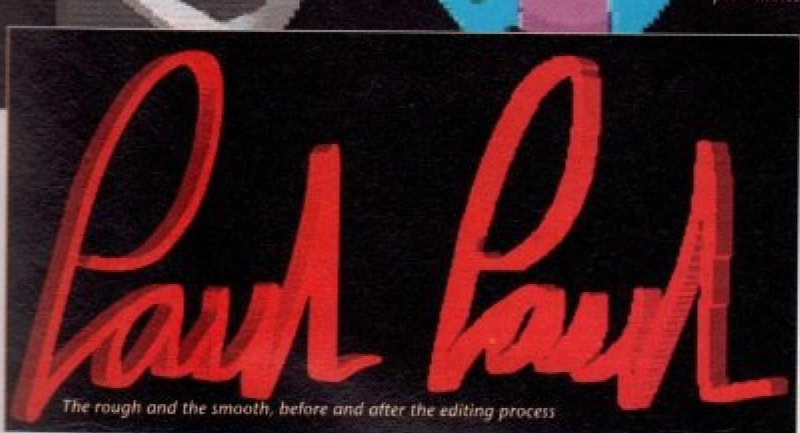
When extrusion is complete your creation can be sucked into the package of your choice just like any normal object, complete with all or just a selection of its original colours.

Once installed all the usual textures, bumpmaps, and material characteristics can be added in exactly the same as any prim or combination shape.

Now a few anoraks may well be diving for a Biro just itching to deliver a literal slap in the face by informing me that Imagine and others already support extrusion. Well don't bother, basic extrusion is only the tip of the iceberg, so save you ink for the cheque.

It's not RaceTrace's dimension-stretching abilities that make it special but rather it's power over low res images and perhaps more importantly fonts.

In the past if you wanted to include designer text or perhaps a corporate logo into a Real 3D image it usually meant more work than the rest of the creation put together.



The rough and the smooth, before and after the editing process

Now thanks to RaceTrace a simple signature can be produced in Dpaint, edited and extruded in RaceTrace and finally rendered in Real in under 30 minutes.

To produce the same image via prims would take an eternity and even Imagine with its built in extruding abilities would struggle to keep pace. Even when complete, I doubt the Imagine object could compete with the feel of a freehand Dpaint creation.

Producing the goods

The first choice is to load an image or a RaceTrace file, a RaceTrace file being a pre-processed image. This option allows you to experiment with all kinds of extrusion depths and editing styles without having to import and process IFFs every time you want to try a new look.

If, let's say, you load an IFF, the first task is to select all or just part of the image and next comes colour selection, which is done by simply clicking on the colours you require. Finally you can choose to define holes if you're working with Real 3D objects.

When all the basic selection is complete the editing begins. As you can see from the unprocessed reflection of the signature the starting point can be a little rough thanks to the jaggies which are unavoidable when working with low res graphics.

At first it seems a daunting task to edit out every single jaggie but thanks to a fast and completely mouse driven interface it's considerably less painful than it looks.

The whole operation is a bit like reassembling a dot to dot drawing. On straight lines it's simply a matter of deleting the jaggies between the first and last points. On curves the same applies and when all the jaggies are destroyed a new smooth arch can be added with the flexible curve which reacts to mouse movement producing a perfect replacement for the original.

The control panel has a whole range of editing tools which allow you to move insert and delete points as required, whilst the function and arrow keys zoom you in and out as you leap from one polygon to the next.

All or just selected polygons can be extruded and saved, so an object can be rebuilt in a raytracing from its component parts. That way elements of the object can have their own textures, materials and surface maps defined.

You may well ask why bother with RaceTrace if there's so much editing involved but believe me cleaning up a font is a great deal easier than starting from scratch and because the skeleton is already present there's no hand drawing involved, it's just a matter of follow the blueprint.

Coming attractions

Updates are high on the priority list at Alternative Image, as a result an upgrade will be available around Christmas that will employ high res images but which as a result will be restricted to around four colours.

The next surprising upgrade is to the code itself which at present consists of compiled GFA Basic which somehow manages amazing speed even in the present version. Version two will be produced in pure C so God knows how quick it will become.

Any updates will be dirt cheap to existing users so don't worry about investing sooner rather than later. The last bit of hot gossip concerns the imminent release of Space Fonts. These complete font sets come with an as yet unfinished utility that adds italic, bold and bevelled edges to your 3D text.

And finally...

RaceTrace is easily outstripping the opposition for both speed and power and the forthcoming updates and support software should make it unbeatable. In short a very impressive product and an essential for anyone who's into the virtual world.

Ease of use

Implementation

Value for money

Overall

Price £80.00 plus VAT
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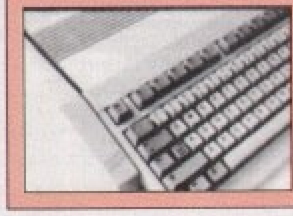
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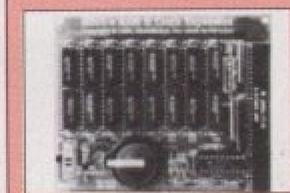


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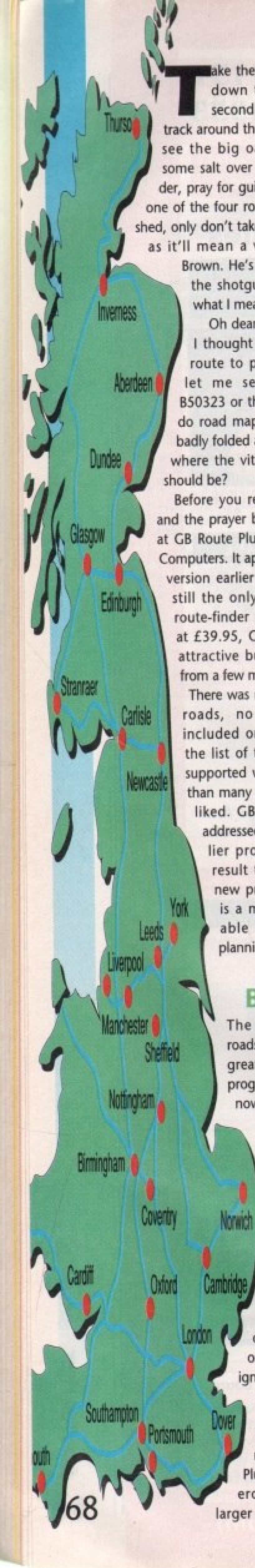
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Stevie Kennedy, who normally needs both hands and a flashlight to locate his backside, tries GB Route Plus, the latest version of the Amiga route-finder

King of the road

"Take the left by the pub down the road, then second right, then the track around the hill. When you see the big oak tree, throw some salt over your left shoulder, pray for guidance, and take one of the four roads by the cowshed, only don't take the bendy one as it'll mean a visit to Farmer Brown. He's a bit eager with the shotgun, if you know what I mean."

Oh dear, lost again. And I thought I'd planned my route to perfection. Now let me see, was it the B50323 or the B50322? Why do road maps always have a badly folded and worn bit just where the vital road junction should be?

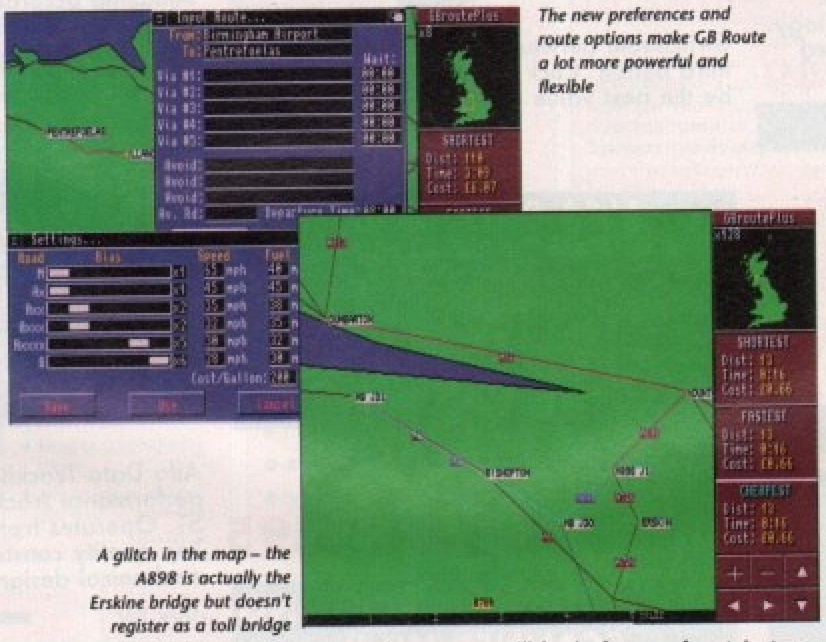
Before you reach for the salt and the prayer book, take a look at GB Route Plus from Complex Computers. It appeared in its first version earlier this year and is still the only serious Amiga route-finder program. Priced at £39.95, GB Route was an attractive buy, but suffered from a few major drawbacks.

There was no support for B-roads, no villages were included on the map, and the list of towns and cities supported was more limited than many users would have liked. GB Route Plus has addressed most of the earlier problems with the result that, even at its new price of £79.95, it is a much more valuable aid to journey planning.

Beautiful

The addition of B-roads itself would have greatly enhanced the program's appeal. It is now possible to plan a route east to west across the country without having to use A-roads, and when a local journey is planned you can elect to use mostly B-roads thus picking up on the sort of obvious short-cuts ignored by the original program.

As an accompaniment to B-roads, GB Route Plus has a fairly generous scattering of larger villages, and you will usually find one at an A- or B-road junction through which access to another route is easier or quicker. For example, a journey from Macclesfield to Didsbury will usually go through Prestbury and Wilmslow, but if you've experienced rush hour traffic in Wilmslow, you'd dismiss this route in an instant.



The new preferences and route options make GB Route a lot more powerful and flexible

A glitch in the map – the A898 is actually the Erskine bridge but doesn't register as a toll bridge

With GB Route Plus, you can not only decide to stick to the B-roads, but can now decide how biased the program will be in favour of certain types of road, and can instruct it to take a much more complex route than previously. The new options, centred mostly on the preferences screen and the new route screen, are easily the program's most striking improvements.

Motorway phobia

If you suffer from a fear of motorways or have a deep-seated hatred for any route on which you might meet a herd of cows, it is now possible to set GB Route's preferences for six categories of road. As a default, all roads are equally good in the program's eyes, but you can tell it to weigh its decisions against a liking for a particular type of road from standard to six times its normal attractiveness.

In this way, A-Roads can be set to six and motorways to one, and GB Route Plus will find you a route to avoid motorways completely and stick to the fastest A-roads. If you prefer the scenic route, any or all settings can be fiddled with until the program's feelings about the various types of road more or less match your own prejudices.

GB Route's original New Route requester allowed the driver to specify three "way points" via which the route should be planned. The New Route requester now allows up to five way points, and will accept a time during which the journey will halt say, at a motorway service station.

In addition, it is possible to instruct the program to avoid up to three locations or even an entire road – "avoid M25" will probably be the most popular use of this function! By utilising the new options, you can map out a complex route far more likely to meet your requirements than the original program's routes could have.

GB Route Edit

Set for release in the near future, GB Route Edit will enable users to add as many new roads and locations as they please. The new roads can be of any of the six types recognised by the program and can be added at any place on the map.

As the map will zoom in on a one square mile area, users in large cities will be able to map out their local main roads through town, add depots, customer delivery points, or even their favourite pubs. The end result is that GB Route Plus will be capable of expanding to suit your changing needs.

Limitations

GB Route still suffers, of course, from the same problems most route-finder programs encounter. If you live in a very small village, for example, you probably won't find it on the map and will have to settle on starting your route from the nearest marked place. This shouldn't present a major obstacle, because most of us know the fastest road to the nearest sizeable town or village in any case.

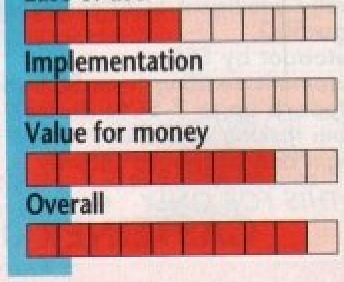
You will also find the program offers a few weird suggestions if you don't specify places to avoid and roads you'd prefer to take. It is easy to end up with a route going through London's city centre if you're looking to go from north of the city to the south and you've told the program you hate motorways. Any amount of free parking on the M25 is preferable to a drive through London, so users will have to tweak the program to get the most from it.

One small irritation when scrolling around the map was the lack of a fast "go to area" option, but with the map in wire frame mode it scrolls fast enough to overcome this.

Conclusion

GB Route Plus is an excellent product which overshadows the original. The improvements it offers are always practical, never cosmetic, and as it stands the program would be good enough for many business uses. With the editor, due for release soon, GB Route will be about as good as it can get.

GB Route Plus is a product of Complex Computers, 2 The Arcade, Waterfoot, Rossendale, Lancs BB4 9AF
Phone: 0706 224531
Price: £79.95





A chip off the old block

Stevie Kennedy examines ways of ramming your A500's memory to 1.5Mb or more

"Not enough memory for requested number of colours." Argh! How many times has your copy of DPaint reported your A500's woeful inadequacies in this way? Too many for the user with an eye on chip memory-intensive applications, that's for sure.

In common with most A500 users, you may have invested in a 0.5 meg upgrade card and imagined your memory problems were over, only to discover that they had just begun. If your original worries were over the sort of graphics and animations you could run on your machine, you might even have found that the addition of more fast RAM has had little effect in the art department.

Painting, DTP, CAD, even many games these days all require at least one megabyte of memory, but the real pinch comes when you realise some of them require a full meg of *chip* memory. Started tearing out your hair yet?

Whither one meg?

The question becomes one of what software packages you intend to run on your system. If these are mostly of a non-graphical nature, such as wordprocessors and spreadsheets, there is no real need to go through the risky business of converting the A500 to utilise a full meg of chip RAM.

On the other hand, if you wish to use a paint package to its fullest, or intend to spend a lot of time on DTP, you will almost certainly come up against the half-meg chip RAM barrier at an early stage in the proceedings. When this happens the only option is to reach for your soldering iron and start cooking.

OK, let's say you don't need a full meg of chip memory. Which RAM expansion should you go for? There are several clear choices these days, but the two most obvious categories are those options which require the Amiga to be opened, thus invalidating your warranty, and those which fit externally and are no more than a simple bolt-on addition.

The latter are usually much more expensive, but as compensation are a great deal easier to fit and usually accept anything up to 8Mb of extra memory. The former are almost all boards to fit in the machine's trap door, and range from 1.5Mb to 6.5Mb in size. The procedure which invalidates your warranty with these cards is the connection to the Gary chip so that the Amiga will recognise the extra memory.

This entails opening your machine and levering out the Gary chip, fitting it in a small PCB, then re-inserting the whole shooting match where the Gary chip originally rested. As opening the Amiga's casing, let alone bodily evicting poor old Gazza, sends your warranty skyward in a puff of smoke, the option is recommended only to those whose A500's are over a year old.

Sturdy boxes

In external units, the choice is limited to a handful of tin boxes which attach to your expansion port on the left-hand side of the 500. The few that exist are mostly of fairly sturdy construction, will perform reliably for years, and have the ability to expand with your system up to a memory limit most usually of 8Mb.

Expensive and bulky, perhaps, but likely to be the last purchase you ever make in the area of memory expansion. The Cortex memory box and the new SupraRam 500RX are particularly natty little devices in this respect, either of which would be a recommended buy ➤

for the user obsessed with memory. Though the Cortex certainly loses out in terms of looks and age, being a few years old and styled like an encyclopaedia wearing a flak jacket, it still does the job, and has the advantage of using more readily available SIMM chips. These can be purchased at bargain prices if you rummage around at user shows or in the small ads.

Like the 500RX, Cortex have taken the responsible step of including a full expansion bus through port, so fitting the Cortex unit will not restrict your other peripherals or future expansion options. It also makes use of a separate power supply to cut out the risk of your Amiga going Guru crazy because of power supply difficulties.

With its auto-configuring memory, through port, separate power supply, and even its friendly disposition towards A1000 owners, the Cortex unit is a very stable, efficient, and durable peripheral.

Product information

The Cortex memory expansion is a product of Cortex Technology and Design Ltd, Phone: 051-236 0480
Price: From £269 with 2Mb fitted, to £519 with 8Mb

SupraRam 500RX is a product of the Supra Corporation, 7101 Supra Drive S.W, Albany, OR 97321 Phone: 0101 503 967 9075
Price: From £195 with 2Mb fitted, to £420 with 8Mb

The Zydec 1.5Mb board is a product of Zydec Ltd
Supplied by many of our advertisers, but we got ours from Evesham Micros Phone: 0386 765500
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The Power 1.5Mb board is a product of Power Computing Ltd
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Price: £79

SupraRam 500RX

The 500RX is a new, sleekly styled unit utilising the latest chips for a low power drain, and therefore doesn't have its own power supply as standard. The DRAMs are of the ZIP type, so all the pins are on one edge of the RAM chips and they stand up on the mother board like dominoes. Normal DIP DRAMs are the familiar chips with pins on either side and, as they sit flat on the board, they take up much more space than ZIPs.

The unit can be populated to various memory sizes, all of which auto-configure, but the most sensible option is to purchase it with 2Mb of 1Mb x 4 chips. This way, if you later decide to upgrade to the full 8Mb, you don't have to replace your existing chips.

With the lower capacity 256K x 4 chips, you can have a maximum of only 2Mb fitted in the 500RX. If you wanted to take the full upgrade path, these would have to be replaced with the 1Mb x 4 chips so there would be little point in buying the 500RX to fit it with only 0.5, 1, or 2Mb of 256K x 4 chips.

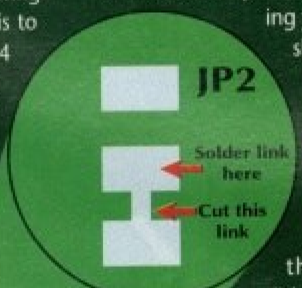
Additional features of the unit include an optional external power supply, which I'd recommend you purchase if going for the four or eight megabyte configurations, the same through port facility as Cortex's unit, and an enable/disable switch. Sleek in looks and sleek in action, the 500RX is an ideal answer to the RAM question.

Cheap but risky

So what do you do if you don't fancy shelling out two or three hundred pounds just so DPaint or Pen Pal will work better? You are faced with two important decisions. The first, as mentioned above, is whether or not to go for 1Mb of chip RAM and risk damaging your Amiga with a shoddy solder job. The second is a question of power supply.

When Jay Miner and his team designed the Amiga, they didn't forsee its being attached to everything not nailed down, and when Commodore took up the design and released the A500, they couldn't have forseen the sort of equipment now being forced into and onto the humblest Amiga.

What all this adds up to is a machine with a wimpy power supply trying to feed an ever increasing number of peripherals and, more often than not, giving up and settling for a Guru meditation. When you slap a 1.5Mb board into your A500, therefore, the safest course of action is to buy a more powerful PSU at the same time.



The boards

Again, we can separate the contenders into two camps – those which offer a conversion to one meg of chip RAM, and those which simply plug in and add an extra 1.5Mb of fast RAM. There are only a few 1.5Mb boards in any case, but even fewer which offer the chip RAM conversion, so we've stuck to one board from each camp.

Zydec 1.5Mb board

The Zydec expansion consists of surface mounted 256K x 4 chips and a Gary chip connector. Don't confuse this with the sort of board which offers a chip memory upgrade – the Gary chip connector is essential for the extra memory to properly configure upon booting the Amiga. To fit the board, the user takes the top off the A500, prises the Gary chip out with a screwdriver, fits the Gary chip to the Zydec's separate PCB, then slots the main board into the trap door.

A final connection is made to plug the Gary board to the main board, then the Amiga is stitched back up again and sent off to post-op.

There is an on/off switch and some test software, but the latter won't usually be needed, as the board is reliable and kicks up the full 1.5Mb with no trouble. That's really all there is to it, I'm afraid. It does what it does.

Power Computing

Everything I've just said about the Zydec board can be said about Power's 1.5Mb board. It works well, uses standard chips, and is reliable. It's only failing is that it has no on/off switch, though this is little more than a nuisance.

There are games which will work only with the original 0.5Mb of Amiga RAM, but they are few and far between.

The Power board's most useful extra feature has to be its 1Mb chip RAM option. This entails cutting a "trace" inside the Amiga and making a single solder link, but once it's done it's permanent and shouldn't bother you again.

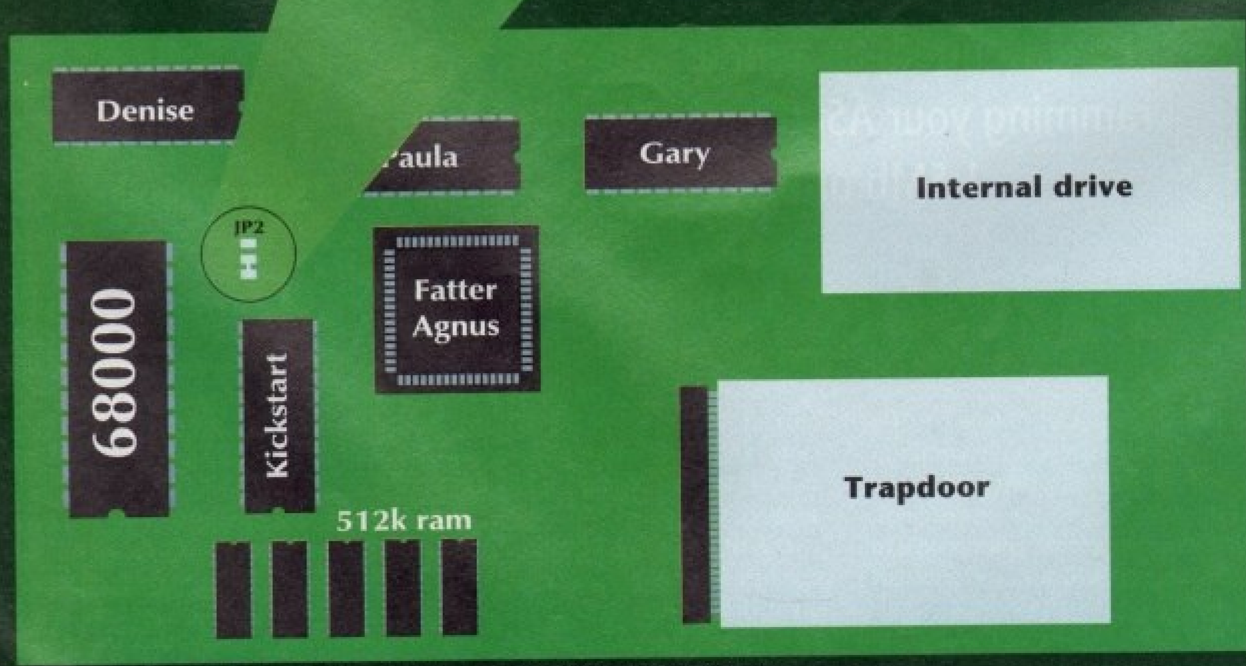
The manual supplied with the board has clear and concise instructions on how to accomplish this minor feat of engineering, and I was pleased to see a spattering of strident warnings on the dangers of damaging the Amiga or invalidating your warranty. The disk supplied is also a nice surprise, as it contains several useful PD programs on top of the test software, SID being the most useful of the lot.

Conclusion

Altogether, now! "You pays your money and you takes your choice!". Phew, now that I've got that old reviewer's cliché off my chest, all I can really say is that you should carefully consider your requirements before going near a memory upgrade. You won't need the extra chip memory if you're only going to do some wordprocessing and play games, and you won't need four or even eight megabytes unless you plan on running two ray tracers at once!

Try not to get over-excited at the prospect of four megabytes – if you never use more than two, you'll never know the difference.

All the units covered in these pages are reliable and commendable options. Where they differ is in terms of price and their appeal to users with differing requirements, so it's down to you to make your choice.



This is the solder job you'll be faced with if you decide to upgrade the 500 to one meg of chip ram

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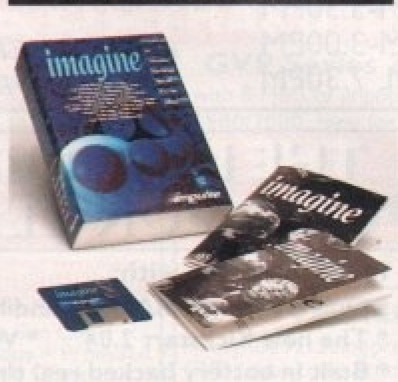
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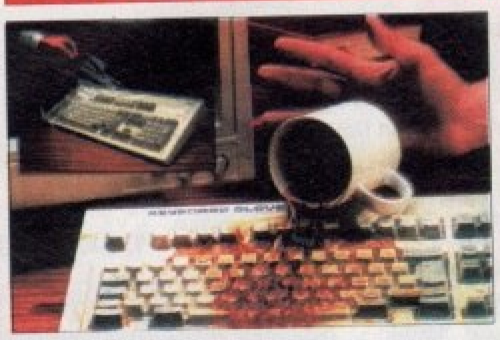
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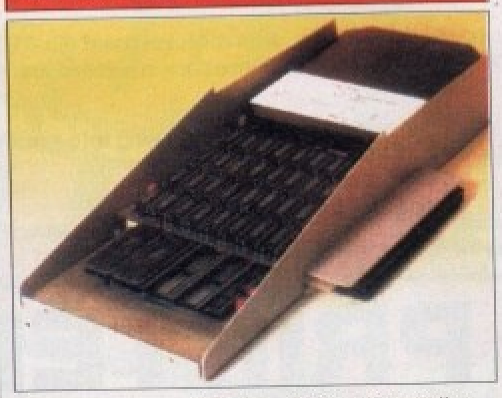
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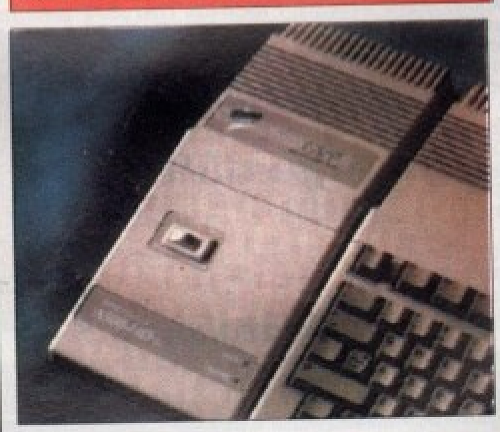
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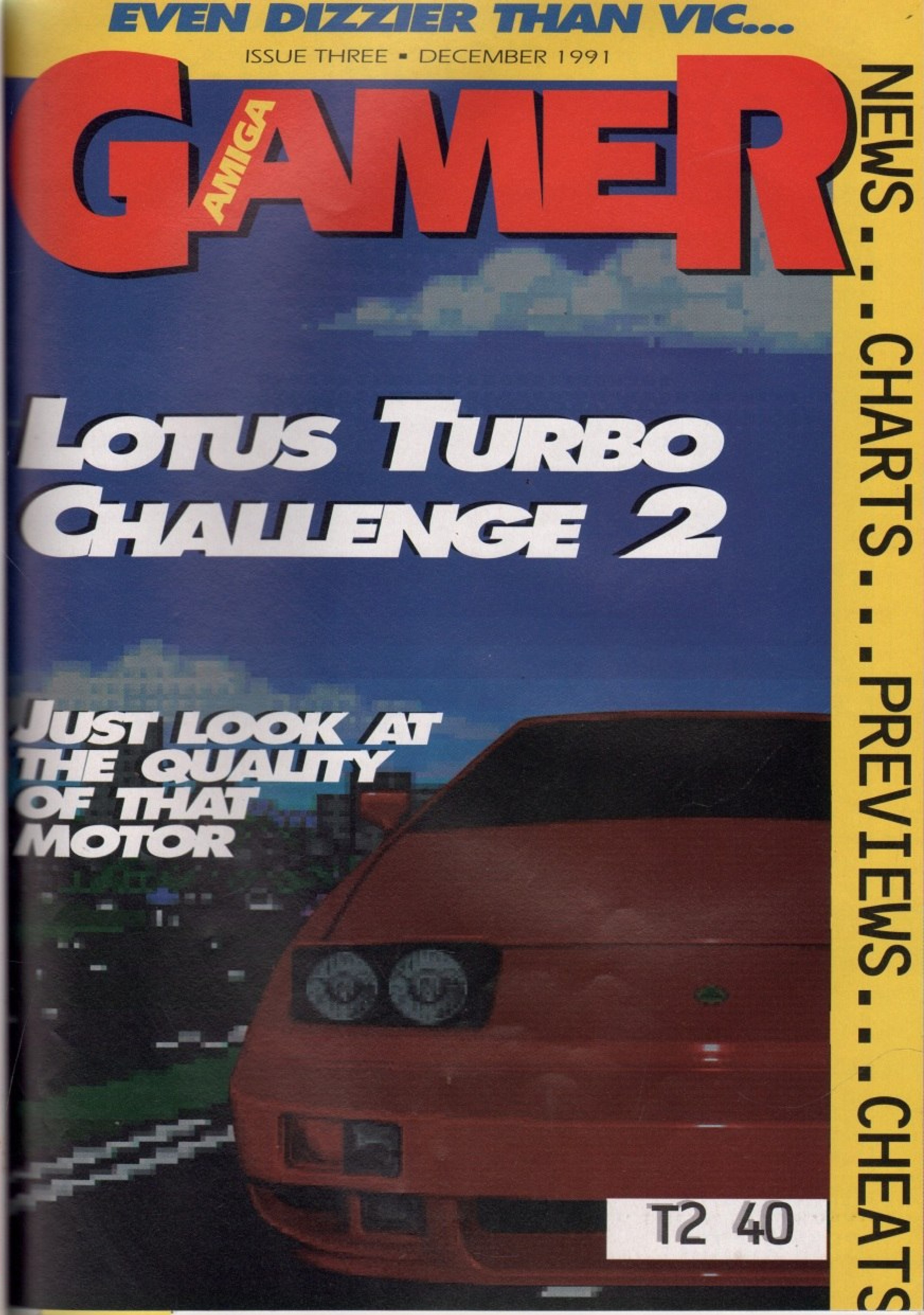
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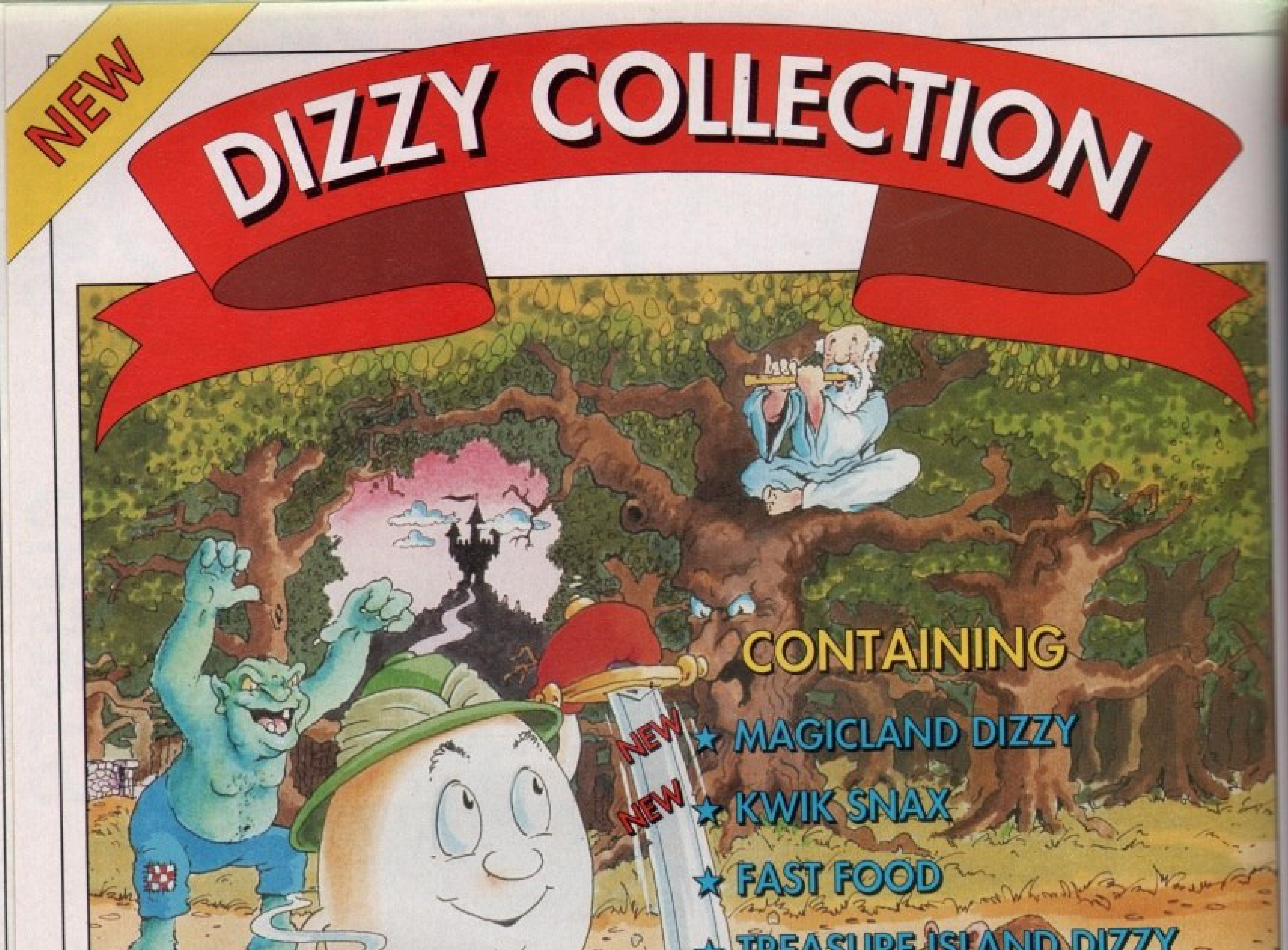
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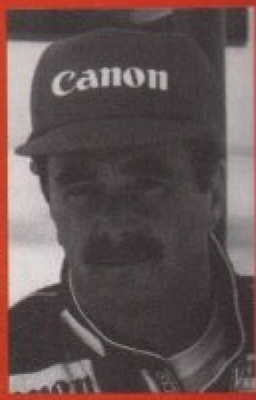


REGULARS

ONword

What's hot and what's not. Gamer spills the beans on the latest from the Amiga games scene

NIGEL MANSELL GRAND PRIX – Gremlin Graphics



As we go to press Nigel is still two races away from finding out if he has won the World Championship. However, like the optimistic chaps that they are, Sheffield-based Gremlin have signed young Nige to put his name to their forthcoming Grand Prix title due for release some time in 1992.

Gremlin have built up a major pedigree as far as race games go, so even without the Nigel Mansell licence it was sure to be a hit. This one looks set to be a winner no matter what Nigel does in the last two races!

MYTH – System 3

Hot on the heels of Last Ninja III comes Myth, a tale of valiance and courage in the face of big, well animated sprites that would scare the pants off lesser mortals. Updated from the highly acclaimed 8-bit game of the same name it requires the player to guide our hero through four gigantic levels, the first three of which are beat-'em-ups, the last being a shoot-'em-up.

The graphical styles take in the three great nations which use mythology as a large part of their history – Greece, Norway and Egypt. At the end of each level you must take on the might of semi-immortal demigods in their lairs.

If you think you can take the strain, Myth will be available for £25.99 in late November.



THE CHAOS ENGINE – Renegade



Following on from the critical acclaim of Gods and Magic Pockets, Renegade's (alias the Bitmap Brothers') previous two releases, The Chaos Engine is billed as the game that will continu to use "advanced AI principles" in the control of the NPCs and the aliens (there are always three good guys, but now they can be played by the computer or by humans).

The aim is to provide an action game that utilises the principles of role playing, so that players may experience character development and select computer characters to take on certain roles and duties as they explore the Victorian fantasy world.

Readers of William Gibson's The Difference Engine will probably know more about the plot than I do but look out for more previews before its release in spring next year.

SMASH TV – Ocean

The hit two-joystick Williams coin-op that bearing more than passing resemblance to Robotron (or anything else ending in Tron for that matter) will crash onto the Amiga within weeks of this article being read.

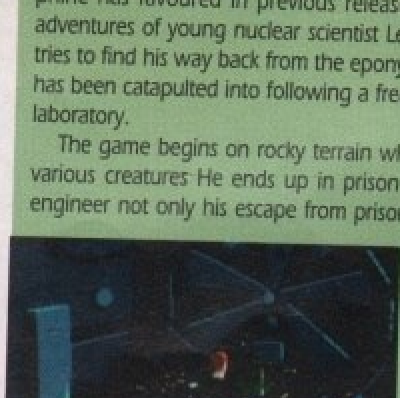
Based around a futuristic game shop the player has to blast everything in sight whilst trying to pick up as many bonus items as possible – VCRs, sleek 1990 roadsters and so on. Unusually, the two joystick combination, one for direction and one for aim, has been converted using joystick and keyboard. If you really want to try and handle the complexity of it all, man. Look out for it late November.



ANOTHER WORLD – US Gold

Since the release of Future Wars two years ago, game designer Eric Chahi has been hard at work on Delphine's next project. This game will feature polygon-based graphics, very complex ones mind you, as opposed to the traditional bitmapped stuff that Delphine has favoured in previous releases. The game follows the adventures of young nuclear scientist Lester Knight Chaykin as he tries to find his way back from the eponymous other world that he has been catapulted into following a freak accident in his research laboratory.

The game begins on rocky terrain where Lester meets up with various creatures He ends up in prison and from there he must engineer not only his escape from prison but his escape from the world.



This interactive adventure will be released in December, price to be announced.

DOUBLE DRAGON II – Storm

Double Dragon III finds the brothers, Billy and Lee, embarking on a new quest, a quest to find the Rosetta Stones. These stones will form a ransom for the once more captured Marion (the perennial damsel in distress of the first game). Their journey will find them embarking on trips through the US, Japan, Italy, China and finally Egypt.

Each of the five levels will consist of 14 street fighting stages where Billy and Jimmy will try and vanquish the alien force behind the world's problems and defeat the mighty enemy that awaits you at the end of the game.

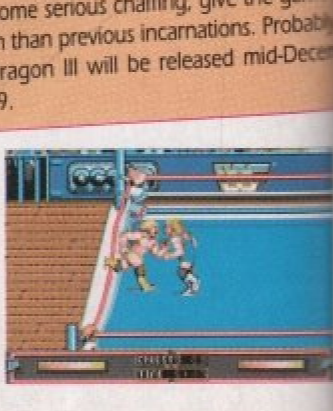
New moves, such as the Handstand Ankleflip or the One Armed Headbutt (I think someone's taking the mickey here), and new features, such as the weapons shop where players can buy all sorts of headache-inducing weaponry that will cause a few bruises and some serious chaffing, give the game a greater depth than previous incarnations. Probably

Double Dragon III will be released mid-December at £25.99.

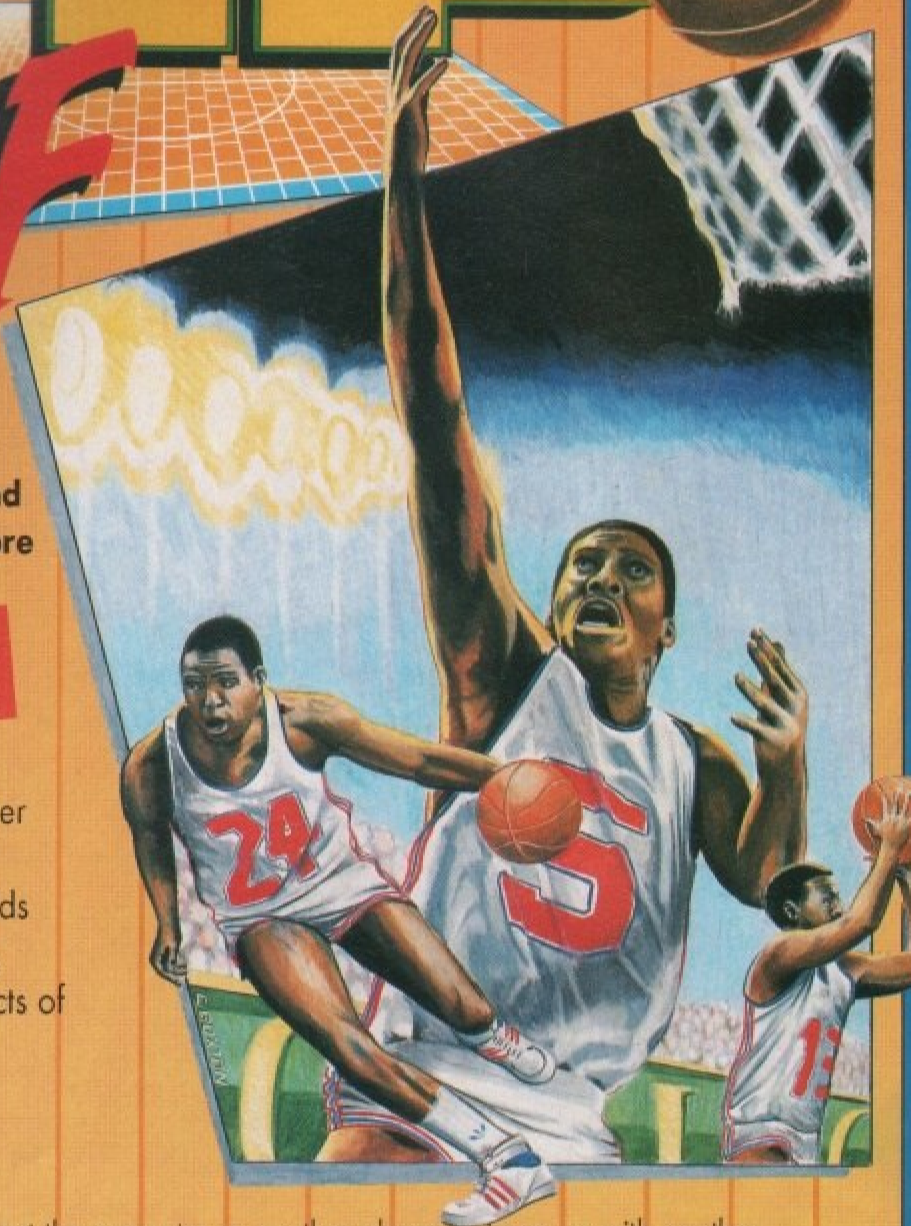
WWF – Ocean

Straight from the satellite success of Hulk Hogan, The Bushwackers, The Ultimate Warrior and Sergeant Slaughter, Ocean are preparing to release the 16-bit conversion of the all-action sweat and canvas frenzy that is currently gracing BSkyB.

It is apparently so accurate that if you look carefully you can see the player conferring as to what move they are scripted to make next. Possibly. Around some time in early December.



TIP OFF



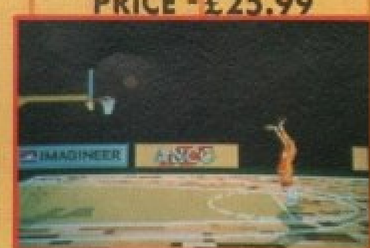
The sheer pace of the game, end to end action and tactical game play is the core of TIP OFF, a basketball simulation -

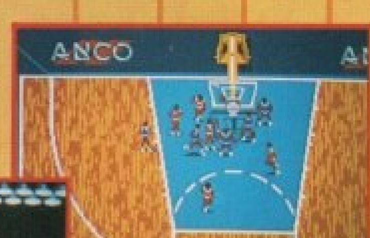
A SIMULATION WHICH IS GREAT FUN TO PLAY

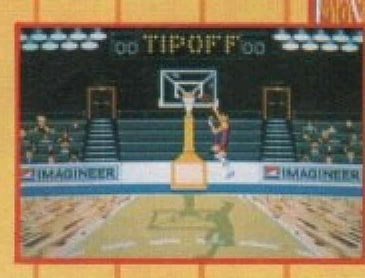
Players' skills, attributes and fitness together with the astute substitution of players and change of tactics banks by the coach, holds the key to success in basket ball. TIP OFF, therefore includes some managerial aspects of the game. The main features are:-

* Multi directional scrolling screen
* Five skill levels. Skill level of both teams can be set independently.
* 1 to 4 players option. Option to play against the computer or another player or team up with another player against the computer or another player or two players.
* Facility to practice skills and tactics.
* Facility to create a team at all skill levels and design tactics.
* Instinctive Joystick controls to dribble, pass, shoot or do a dummy. There are two running speeds, two types of dribbling and passing and five types of shots at the basket (Jump shot, Hook shot, Skyhook, Running Jump shot and Slam Dunk).
* Each player on the court is an individual with a unique mixture of attributes (Age, Height, Flair, Pace, Stamina and Composure) and skills (Passing, Dribbling, Stealing, Shooting and Jumping).
* Two types of Leagues. Action Replay at 3 speeds.
* Extra moves are available using two independent button joysticks using the EXORLENCE System.

AMIGA ATARI ST -
IBM PC & COMPATIBLES
PRICE - £25.99







Amiga Screenshot's Shown

EASY TO PLAY - HARD TO MASTER

Published by
ANCO Software Ltd

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8 Millside Industrial Estate, Lawson Road, Dartford, Kent, DA1 5BH Tel: 0322 292513/8 Fax: 0322 293422



Strung up by the other girls in class for having too many pony-tails, you must release her from the stocks by slicing them off with an axe. Oh the irony



You missed the pony-tails but managed to slice her head open. Never mind, nobody liked her anyway



One of the first rooms you will come across, usually full of food but someone's beaten you to it...

the SOU

Game designer Jer O'Carroll woke up one night in a cold sweat having just had a nightmare about how boring and static rôle-playing adventures looked on computer. Then he went out and bought Eye of the Beholder, and his nightmare came true!

He had no choice, it was up to him, Great Hairy One Of That Green Bit West Of Wales, to put his absurdly brilliant graphical and creative talents to good use, meld them with the programming skills of his good mate Jed Keveney and sit about for weeks moaning about how there was never enough memory. The happy life of a programmer, eh?

Several months later we come to the present day, the game is nearly complete, Jer and Jed are still moaning about why they can't put 18 disks in a box and still charge less than thirty quid, and I went to Derby to have a look.

The story goes thus: the Viking people were created by the Gods of Valhalla and Asgard many centuries prior to the time of the game. The Gods were pretty enamoured with their creations in much the same way that little girls love those dolls that urinate all over them in a realistic manner, but just like those little girls the novelty wore off pretty quickly and contact between the two soon became less and less frequent.

But one of the oldest Gods, Frey, patron of corned beef and tinned meat pies, realised that these Viking chappies may come in useful and left them a prophecy. "One day a child will be born to you who is neither human nor a god," he told them, "a great warrior who will lead his people on a mission of great importance and represent the people in the great battle of Ragnarok." No one took any notice at the time because they were all drunk.

Aeons passed and the age of Ragnarok came, the time when Loki, leader of the evil gods, would challenge the decent Viking gods to a battle, a battle that would end the eternal struggle for good.

But Loki pulled a fast one, as evil gods are wont to do, and scattered the three sacred weapons of the good gods across the three planes of existence.

The Gods couldn't retrieve them either, because if any of them were down to earth, they would become mortal and never enjoy the perks of the being a god again.

The time was now right for the Gods to fulfil the prophecy of sending down a warrior to earth. Only he could retrieve the weapons for them, only he could walk the fine line between courage and bravery, only he could eat blue Smarties without adverse psychological effects.

That night Thor raised a storm that ravaged Norway, and in a Viking village at the northern tip of that striking land a young virgin gave birth. Until that moment she had not even realised she was preggers (sex education was a case of "on the job" training in those days). That child was Heimdall.

Heimdall is the central character of this game, a game which attempts to move the boundaries of RPG into a far more accessible arena by making it look and play in a much more interesting





Entering a village usually involves paying

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Cor(e) blimey guv'nor, Strike me dahn if it ain't Jools with a preview of Core Design's Norse epic Heimdall, and further in, an exclusive sneak preview of Wolfchild, their great-looking post-Christmas beat-'em-up.



That bridge behind you wasn't there until you cast a spell, but which spell?

way. The game is split into two parts. The first will show Heimdall growing up, completing three light-hearted tasks. His degree of success has a direct bearing on the number of men available to help him on his quest. He has access to thirty men in total but depending on the score from the three tasks he may be refused access to the men with more advanced skills.

What will these three tasks be? The first involves a girl tied by her eight pony-tails into the stocks outside some tavern.

In an extremely drunken manner you must fling ten axes at her in the hope that you will be able to sever all eight pony-tails and free her from the stocks. Naturally the major danger is severing her from one side of her head with the axe, and if this happens it could cause big problems.

The next part will involve chasing a pig around an arena until a deft movement of the joystick causes you to dive on her and get her to sit on your lap, say no more.

The final part has you seated in one of those giant Norse longboats fighting another longboat to the Gurgle. This is apparently the sound these boats make when they sink, hence the name the Gurgle.

All these three sections will be done with some brilliant Dragon's Lair style animations, but there is actually some gameplay there as well. The quality of these sections will be quite amazing, cartoon quality animations that burst with humour.

The rest of the game will take the form of a 3D isometric RPG, but with mega-brilliant backgrounds, and the sprites animated in the same cartoon style as the three sub-games but a bit smaller.

This part of the game will be played over three levels: Midgard, Utgard and Asgard, with the aim in each of the levels to sail around the islands, solve puzzles, beat up various creatures and find the sacred weapon that will be cunningly hidden.

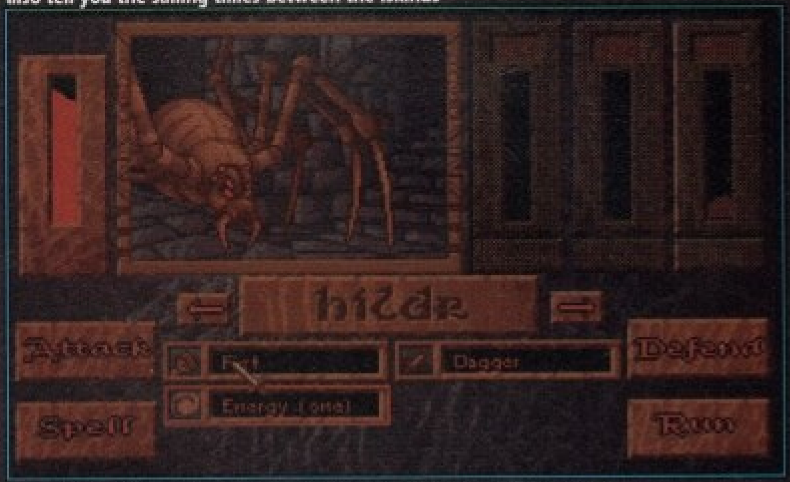
Heimdall is the leader of the party of six selected from the thirty original men, but only three at any one time will be allowed off the ship that journeys between the islands. The three in play won't be seen on screen at once, just the current leader of the party, in a symbolic kind of way. One of the major improvements on the genre are the fight sequences. Instead of pressing the



es paying ... lackey of a bouncer



The map of the first world. If you take a navigator it will also tell you the sailing times between the islands



Attacked by a Geriatric Enemy Mutant Spider, it is up to Hilda to save you



The window showing your attacker animates to show both your moves, from a first person perspective, and the opponents



The stats screen showing who's who, what's what and when's when(?)

the Source continued

Fire button a lot in front of a picture of the chap you are trying to hack to bits, you will be fighting an animated bad guy, and the timing of your blow during the animation will be crucial to the success of the hit. During a fight one or all of the parties will be involved but initially it will just be the selected leader.

The screen layout will be similar to Dungeon Master during the fights, with the animation going on in a quarter screen window. As well as the enemy being animated, each attack you make will have its own animation, and a different one for each different weapon. The info displayed will included blood meters to indicate the health of both you and your opponent, and an icon panel showing which weapons and spells are available to you during the fight.

However, most of the game uses the isometric viewpoint sharing more with Cadaver and Dragon's Lair than with Dungeon Master and Eye of the Beholder. And this is where the amazing graphics come in and some inspired puzzling and exploration.

The still backgrounds are outrageously good, but the sad thing is that the sound is going to suffer because there just isn't the room in the average memory, once all the graphics are in there, for a wide range of sound effects. This aside it is going to be something of a stonker when it hits town in December.



As a man it is quite clear he doesn't use gel. Just look at the way his hair blows in the wind

WOLFCHILD

While having a look at Heimdall, I also managed to get an exclusive preview of Core's post-Christmas beat-'em-up Wolfchild. And it looks pretty tasty as well.

What the game designer and programmer, Simon Phipps and John Kirkland respectively, have tried to do is combine the playability that has always been there in good beat-'em-ups with a graphical quality and attention to detail previously unheard of outside of the very best console games.

The game revolves around a young man's quest to rescue his scientist father from the clutches of the evil organisation Chimera. The young man's father, Kal Morrow, was the leading innovator in the world of genetic hybridisation, the science of melding species to create superhumans with advanced intelligence, immunity to pain and capable of feats of immense physical strength.

The only other person who fully understands Kal's work is his son Saul, the young man with a mission. He resurrects his father's projects and becomes a Lycanthrope, a man with the power to become a powerful werewolf at will.

He also builds a massive craft with which to infiltrate the heavily guarded base of Chimera. The objective is simple – beat everybody up, destroy the base and rescue Kal Morrow. Nay problem.

The game will be divided into five levels. The first is a smaller introductory level

GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER



The enemy gang up and chase our hero into the indoors section



The Thunder Jaws sub sets off towards Madame Q's base

Where's J.R. Hartley when you need him?

THUNDER JAWS

DOMARK • £25.99 • ½ meg • Joystick • Out now



What a rum old place the sea is. It's big, it's wet and it's full of slimy creatures that bite and sting you. And it's cold. And it's infested with cyborg sharks, lizard women and murderous frogmen. Is it? Well, it is if you happen to be swimming near Madame Q's underwater hide-out. And what's Thunder Jaws about? Swimming into Madame Q's underwater hide-out, that's what. Yikes.

So who is Madame Q? Well, not only is she a heartless and pesky super villainess, but she's also the first person in the "Q" section of the phone book. Someone, somewhere has got mighty annoyed with Ms. Q – possibly the people who compile the phone book – and they've sent a crack commando squad to get her. Guess who controls said commando team? Yus, 'tis you. So we've heard the story a million times before, but that never stopped them making six Police Academy films did it? Thankfully though, Thunder Jaws is nowhere near as biz as Police Academy. Thank Hovis for that, eh, pop pickers?

What we have here, for those who haven't guessed, is a scrolling shoot-'em-up. What a fabulous surprise! We haven't had one of these in the office since, ooh, yesterday.

But, lo and behold, it's a bit of a "spanker". Let's put on our dayglo' beach shorts and wade in deeper... The game is split into two main sections. An underwater swimmy bit, and a nice dry indoors shooty bit. As you make your way towards Madame Q's base, it alternates between the two.

So at the end of each underwater bit you'll reach an indoors section to shoot your way in to, and at the end of each indoors section you'll find, wait for it, a big end-of-level nasty guarding the hatchway to the next underwater bit.

It's a nice concept and it makes the gameplay a little less repetitive. Personally I found the underwater bits a tad easier, but that doesn't mean that they're merely there to fill space between the indoors bits. On both sections the difficulty level is set so that just when you think you've got the hang of

that takes place onboard this aircraft as it is bombarded by various mutants that Chimera have created using Kal's expertise, under duress naturally.

This level will gives the player his or her first opportunity to gasp in wonderment at the silly amount of animation frames and the clever way that the main sprite's hair always blows the right way no matter which way he is facing. Clever eh?

The silly number of animation frames are caused by the fact that the gameplay demands that the main character runs horizontally and up or down two different gradients. Naturally, his speed is affected by the gradient.

This first level begins with the player controlling Saul's human incarnation, but once Saul builds up his energy by using the pick-ups to over half(ish) he will become the Werewolf. This has two advantages. Firstly the Werewolf is stronger and secondly he has several weapons at his disposal as opposed to just the fists.

The weapons he can use will vary depending on what he picked up but they are all shapes that are constructed as if by magic from lightning. As they twirl towards the enemy, little charged particles fly off meaning that some of the animations of the weapon sprites take over ten frames. It doesn't sound like a lot but when you consider that most weapon animations usually take no more than two or three it is pretty damn impressive.

The game itself will consist of five levels, the first already described. The remaining four will be approximately 80 screens in size and having the odd secret room hidden here and there.

I've been given a little peek of the second and third level as well as the first and they are different in style to then usual beat-'em-up fayre. The second level takes place in what can only be described as a fantasy style forest, with the vegetation being mutated into hideous creatures sent to sap the life from you. Thankfully none of them resemble the Triffids.

The third level promises to be exceptionally gross. It will involve the main character fighting his way through a cavern with some interesting walls. These walls will be made entirely of animated creepy crawlies that promise to rock even the least squeamish of you to the very core. I know what you are all thinking, it is all but another beat-'em-up.

Yes it is, but it promises to include the best graphics ever seen in the genre, more colours on screen at any one time, more frames of animation, and some pretty stonking action-packed gameplay to boot. Look out for it in early 1992.



Once the energy level has reached over halfway(ish), meladdo here turns into a Werewolf

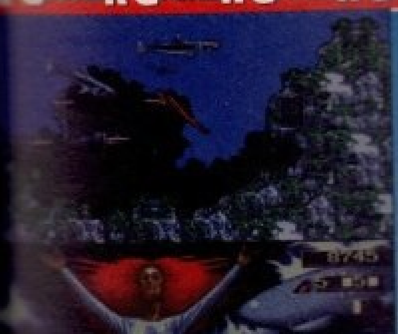


The first level is a bit on intro as you work your way along the deck of your floating battleship-type contraption



Because he had to walk on the different inclinations the total number of frames in the main character soars into the hundreds

GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GA



Thunder Jaws boasts the most artificial sharks since the Batman TV series...

it, something bigger and meaner comes along and stomps on your head. It makes for some pretty addictive gameplay, I can tell you.

There's the essential two player mode, which makes things easier, and of course you get the collectable weapons which are pretty good, actually. All the usual features from a shooty game but with enough nibbly bits to make it fun, basically.

The graphics are average, but some of the animation on the sharks is verging on the "very dodgy indeed" side. On the indoors section things look up with some much bigger graphics, and much more varied opponents. Unfortunately the pace of the game doesn't seem to have left our heroes any time to change out of their wetsuits, so they tromp through the section looking like outcasts from Rainbow.

Sound is well catered for, with an atmospheric Jaws-type tune playing during the opening animation – which is pretty good, if totally irrelevant – and some thumping tunes and FX to spice up the actual game. Nothing spectacular, but nothing too distressing either. Bravo!

So there you have it, Thunder Jaws, a pretty good shoot-'em-up with a little bit of variety. And lots of fish.

Daniel Whitehead

VISION GGG
"Nice," yes that's what they are. "Nice."

AUDIO GGG
No great shakes, but enough to worry Dannii Minogue.

PLAYABILITY GGG
Just as good as any other shooter on the market.

ADDICTION GGG
It's pitched just right, so you get a little further each time.

70%

Big Weapons

What big weapons these Thunder Jaws fellas have! Here's what they are and what they do...

 The Uzi 9mm doesn't just inspire countless Arnie impersonations, it also gives you a rapid stream of bullets.

 The rocket launcher allows you to fire massively destructive torpedoes. Yum yum.

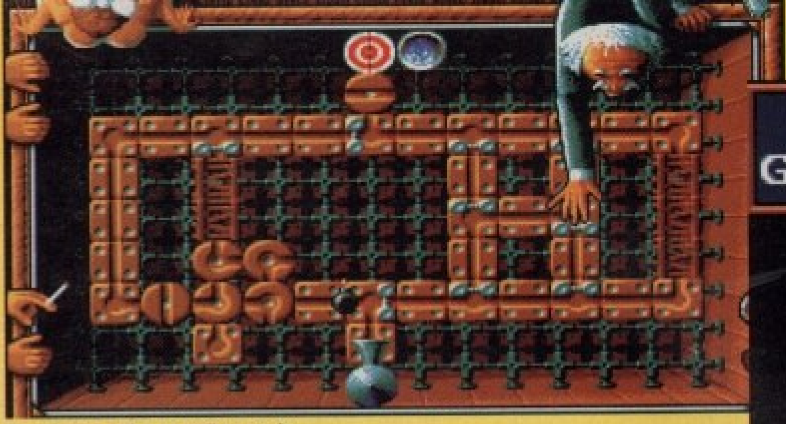
 The flame thrower is the best weapon. It releases a huge jet of flame which toasts the enemy. Wahey!

 No shoot-'em-up would be complete without three-way bullets so, er, here they are.

 The heat seekers will hunt down the enemy even if they're above you. Isn't that gorgeous?



Once indoors, Robodogs are one of the more dangerous opponents you face



Interfering old man strikes again



Not as complex as it looks



Blimey!

Oh, what a bomber!

BOSTON BOMB CLUB

PALACE ▪ £25.99 ▪ ½ meg ▪ Mouse ▪ Out November

A gentleman's club of late 19th century Boston is the setting for this derivative but enjoyable puzzle game, that claims to be the first to have a sense of humour. It is the kind of gentleman's club that is decorated in a very austere style, apart from the numerous good-time gals who wander around in basques and suspenders like the ones in Twin Peak's One Eyed Jack's.

The Bomb Club's favourite pastime, apart from paying large amounts of cash to these basque-clad women, is lighting the fuse to one of those round bombs that Peter Sellers so loved, and guiding it around a course laid out on a table so that it reaches the safety of a bucket of water before it explodes.



The tabletop is constructed from various pieces, each one a "square" big. These pieces can be manipulated so that a path for the bomb is constructed across the table. Typically, not all of the available spaces on the table will be used and nor will all of the pieces be flexible. The general pieces you will come across are as follows: the static ones which cannot be adjusted in any way, shape or form; the junctions which make use of a movable gate which allows you to guide the bomb to where you want it to go by placing the barrier on one of the four edges of the "square"; the rotatable L-bend; the collapsible bridge which can only be used once; the trampoline which will launch the bomb a set number of squares a dictated by the number upon it; and the "fixed" gate.

The fixed gate can give you real problems. You have no direct control over which of the four positions it is set in. The only way it can be changed is by guiding the bomb through it – this hits the switch which flicks the gate onto the next position clockwise from it.

The combination of the pieces and hazards, and the correct manipulation thereof, make for as real challenge as you try and stay ahead of the constantly moving bomb.

It all ends up being a bit like Pipe Mania, the frantic nature of the gameplay is there but not to the same hair-greying extent, and the addiction is there, but it won't cause the same sleepless nights.

The more advanced levels can cause some pretty serious nightmares, but the game often provides opportunities to hang around, by parking a bomb between two closed gates, giving you the chance to think carefully about the problem as opposed to forcing you to make off the cuff decisions – one of the factors that made Pipe Mania such a nightmare.

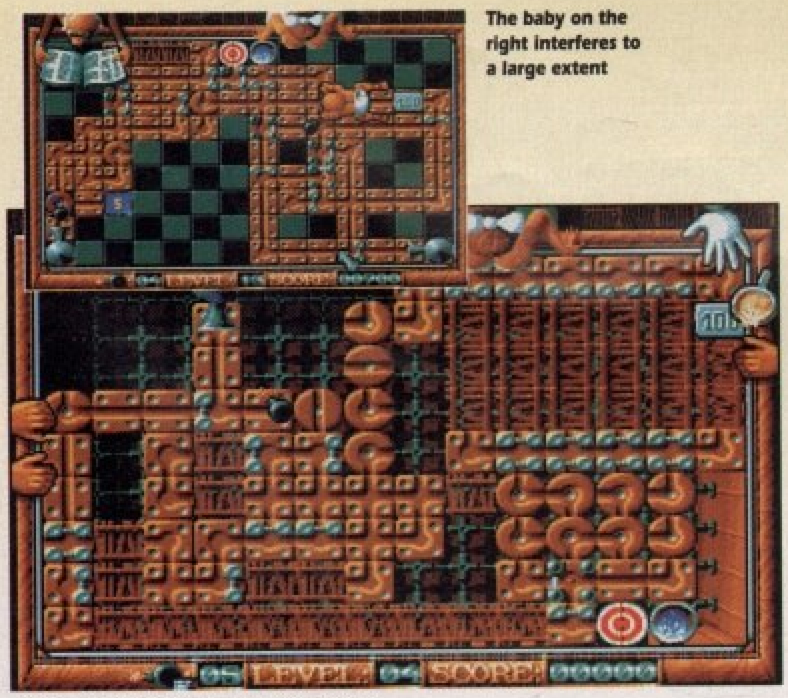
To add to the troubles, each bomb represents a life and to complete a level all you have to do is get all your remaining bombs through the course. This means that you will be able to whistle through about five levels in quick succession if you are down to one life, because getting one bomb through is no problem on most levels. The better system would have given you a fixed number of bombs to get through the level – then if you failed you would lose a life and have to try again.

The small number of levels, 30, means that the price is a little high for a game that can be completed in a cack-handed way, one bomb through 25 levels, very easily. On the good side though, the levels that are there are really good fun, and sometimes take a few attempts to work out.

While you do try to work them out it is great fun, and sometimes very frustrating as the spectators at the side reach across and interfere with your hard work, a clever feature that hasn't been seen before.

In all though it is a little too simple – great fun for a while, but not good enough to warrant a place in software history.

Jools



The baby on the right interferes to a large extent

Those rickety bridges are very dangerous

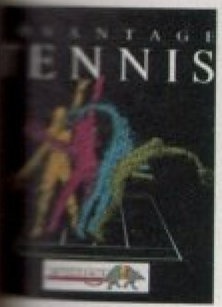
VISION – Great intermediate screens, good looking in-game stuff.

AUDIO – Limited to the odd click and bang.

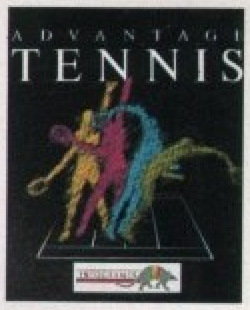
PLAYABILITY – High challenge factor but ultimately repetitive.

ADDICTION – Easily completed, with nothing to aim for.

74%



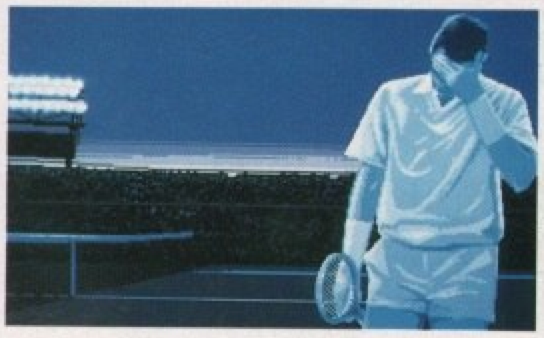
ADVANTAGE TENNIS



onday, 3rd of November 1991 THE NEWSPAPER OF CHAMPION GAMES. ★ 1st year N# 000001

SIMPLY UNBEATABLE!

nother crushing victory for ADVANTAGE TENNIS ver its rivals. Its indisputable technical superiority as proved last season on all surfaces. Like us, ennis World is wondering if this year, there will be a ayer who is well trained enough to succeed in aking ADVANTAGE TENNIS' title and becoming umber 1.





A CHAMPION'S PORTRAIT

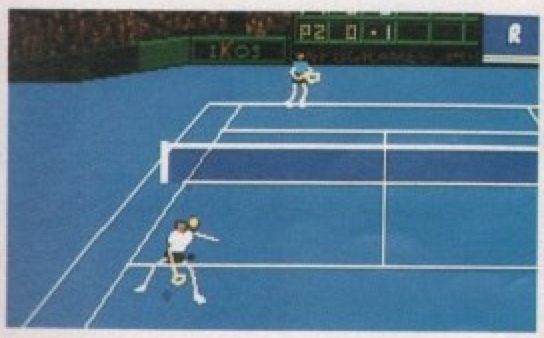
- 1 or 2 simultaneous players.
- Numerous spectacular shots: Backhand smash, Dive...
- Slow motion replay of the last rally.
- 3 game types: training, season or exhibition.
- ATP point and ranking management by program.
- Different view angles.

WIN YOUR BADGE "N# 1 IN THE WORLD"

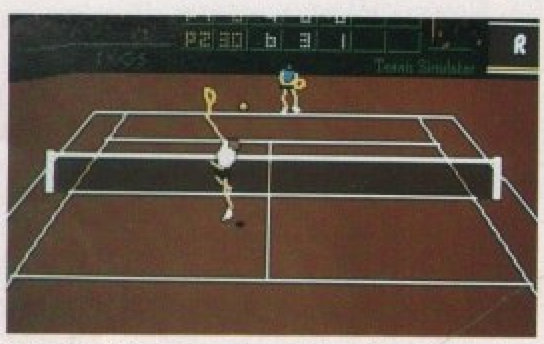
Fine! You have not given up. Your technical and mental qualities have made you Number 1 in the world ranking. Every winner deserves a medal. So if you're among the first 200 to send us a screen shot representing the first page of your press book proving that you have defeated ADVANTAGE TENNIS, you will get the badge ADVANTAGE TENNIS PLAYER NUMBER 1.



rvellous high smash on the grass of nbledon.



Terrific between-the-legs-stroke on the synthetic surface of Tokyo.



Splendid backhand smash at the net on clay at Roland Garros.

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GALLUP CHART

Compiled exclusively for GAMER

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Jimmy White jumps straight to the number one spot with a trick shot that would make us all proud: signing his name to the best snooker simulation ever. This dislodges Core's Thunderhawk from the top spot but I am reliably informed that there is very little in it. But Core's big white hope has managed to hold off the much awaited Cruise for a Corpse from US Gold.

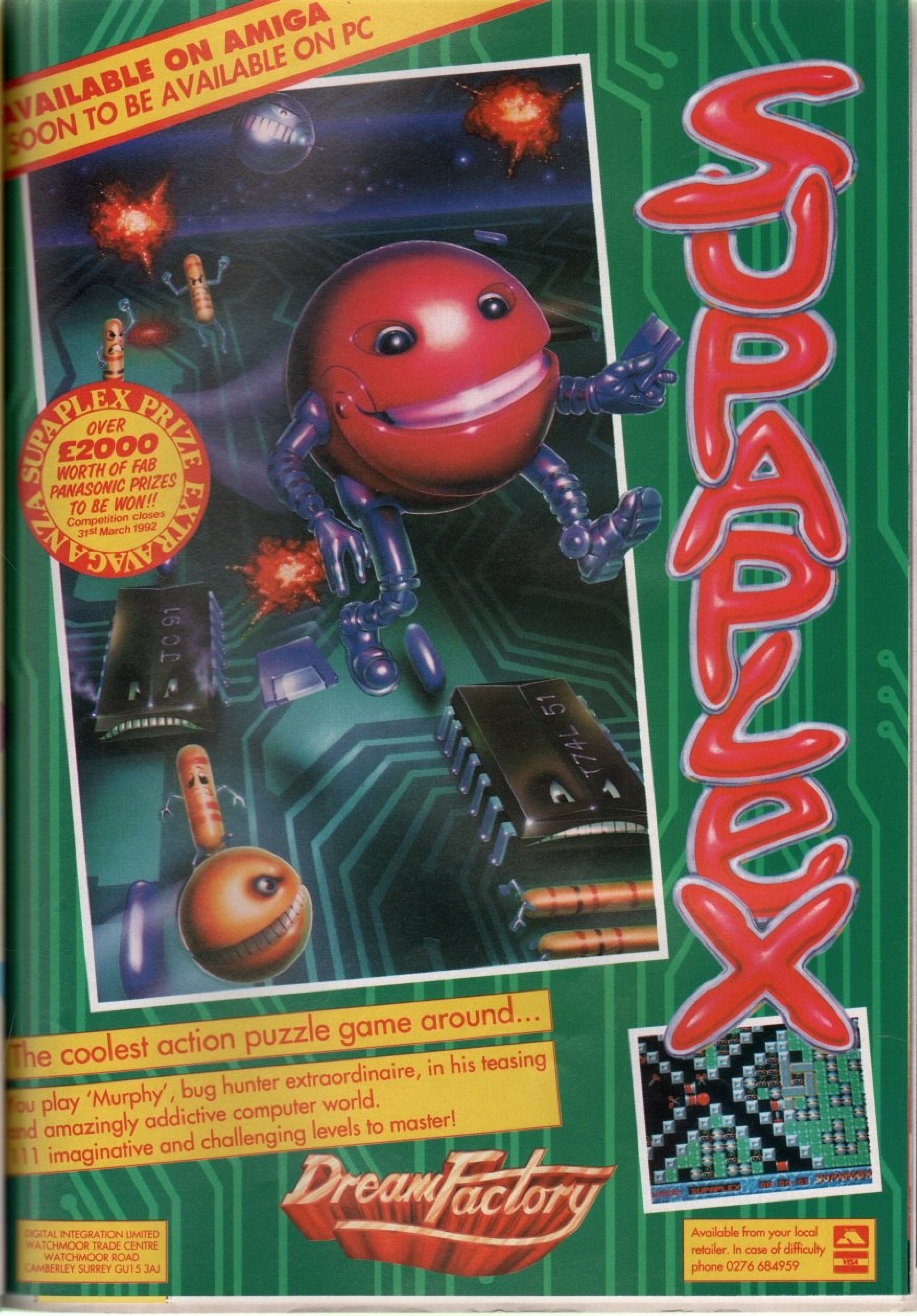
Team 17's Full Contact is still hanging around like a bad penny, beating new entry Silent Service II from Microprose by one place. PGA Tour Golf won't go away either, no doubt helped by the Ryder Cup last month. I doubt if anything bar a game of Russian Roulette can help Bernard Gallagher though.

Some disappointments though for major games that I expected to make a better showing, Flames of Freedom, at 36, and Rodland at 27. The problem with those is that they were released too late in the month to make any major impression on this particular chart, but I fully expect them to climb several places in next month's chart.

No move from Lemmings this month but Gods has finally slipped from grace out of the Top 40. It should be more than adequately replaced by Magic Pockets, from the same stable Renegade, next month.

Jools

THIS MONTH		LAST MONTH			
1	↑↑	NE	Jimmy White's Whirlwind Snooker	Virgin	£29.99
2	↓	1	Thunderhawk	Core Design	£30.99
3	↑↑	NE	Cruise for a Corpse	US Gold	£27.99
4	↓	3	Full Contact	Team 17	£9.99
5	↑↑	NE	Silent Service II	Microprose	£34.99
6	↓	4	TV Sports Football	Mirror Image	£9.99
7	↑	9	PGA Tour Golf	Electronic Arts	£25.99
8	→	8	New Zealand Story	Hit Squad	£7.99
9	↑	14	Supercars	GBH	£7.99
10	↓	5	Monkey Island	US Gold	£29.99
11	↑↑	NE	Bubble Bobble	Hit Squad	£7.99
12	↑	16	Lombard RAC Rally	Hit Squad	£7.99
13	↓	7	North and South	Digital Integration	£7.99
14	↓	6	Fantasy World Dizzy	Code Masters	£6.99
15	↓	2	Manchester United Europe	Krisalis	£25.99
16	↓	12	Rainbow Collection	Ocean	£19.99
17	→	17	Xenon 2	Mirror Image	£9.99
18	↓	15	Ninja Rabbits	Micro Value	£6.99
19	↑	23	Cabal	Hit Squad	£7.99
20	↓	10	Eye of the Beholder	US Gold	£30.99
21	↓	19	Pro Boxing	Code Masters	£7.99
22	↓	11	F15 Strike Eagle II	Microprose	£29.99
23	↑	36	Shinobi	Mastertronic	£7.99
24	↑↑	NE	Conqueror	Kixx	£7.99
25	↑↑	NE	Shadow of the Beast	Sizzlers	£7.99
26	↓	18	Little Puff	Code Masters	£6.99
27	↑↑	NE	Rodland	Storm	£25.99
28	↓	13	Defender of the Crown	Mirror Image	£9.99
29	↑↑	NE	Dragon Ninja	Hit Squad	£7.99
30	↑↑	NE	Elf	Ocean	£24.99
31	↑↑	NE	Indy and Last Crusade	Kixx	£7.99
32	→	32	Lemmings	Psygnosis	£25.55
33	↓	20	The Games – Summer Edition	Kixx	£7.99
34	↓	24	Blood Money	Sizzlers	£7.99
35	↑↑	NE	Sinbad	Mirror Image	£9.99
36	↑↑	NE	Flames of Freedom	Rainbird	£34.99
37	↓	25	Treasure Island Dizzy	Code Masters	£4.99
38	↓	33	Waterloo	Mirror Image	£9.99
39	↓	26	Impossamole	GBH	£7.99
40	↓	21	Beach Volley	Hit Squad	£7.99

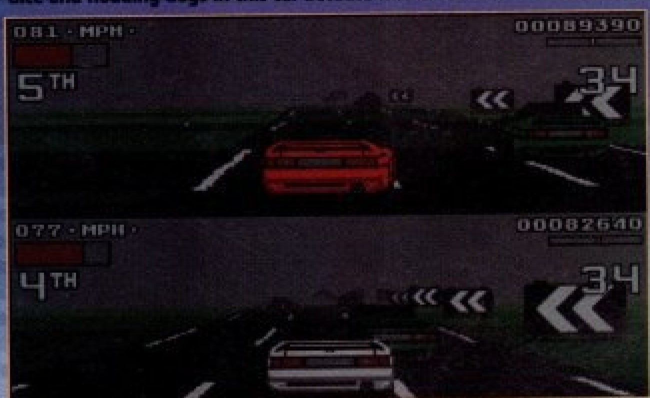

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The rather swish Elan. There is apparently a law banning furry dice and nodding dogs in this car because it is far to cool!



Staying on the track is imperative as you drive through the marshland. One false move and you're in deep trouble



The two player split screen is great for encouraging competitiveness



The rain it raineth every day (a bit of Shakespeare for you folks)

Let me show you

LOTUS TURBO

GREMLIN • £25.99 • ½ meg

Brmmm, brmmm, revv revv. Phwooaaargh, the birds are gonna luv me in this, I can tell ya. A brand new Lotus Elan, and some new roads for me to race the Esprit that I got last year on. Eh by eck, my pulling power's gone through the roof since I bought this big red throbbing machine. The wimmen I've 'ad chasing me you would not believe. You know that Fiona Fullerton piece off the telly? Well she's been after me, an' so's that lass off Coronation Street, Sally Webster.

Sorry lads, Trev 'ere. The reason I'm so excited is that Gremlin have finally got around to chuckin' out the sequel to last year's stonker Lotus Esprit Turbo Challenge. That racing game was the business as far as I'm concerned and Gremlin have at least done the sound deal by not chuckin' out the same game with a few more tracks, like with 'Ard Drivin' II or summat. What they've done is change the gameplay considerably to make it a separate package, like, and therefore worth the dosh. Or is it? 'Ere's the low down, lads.

This time around we get eight levels, starting off dead simple then endin' up pretty nasty, like. Instead of 'avin' a race as such this one takes its cue from Rad Mobile, Sega's ace coin-op, and has a series of checkpoints that have to be reached before your time runs out.

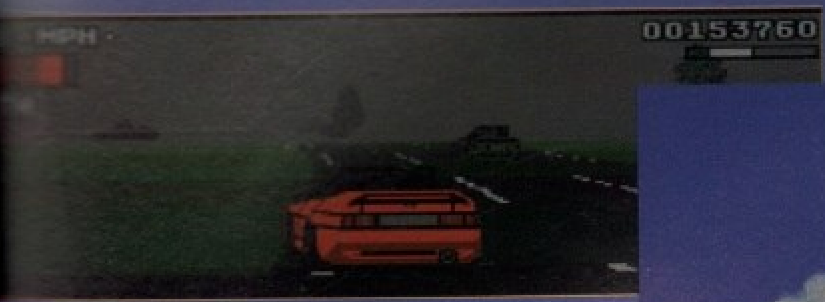
You start of wi' summat like 30 seconds to reach the next checkpoint, or whatever, then when you reach the next one you are given the seconds to reach the next checkpoint, plus whatever seconds you 'ad left from the one you've just done, like. Clever innit? Each of the eight levels 'as upwards of five checkpoints with the final level 'avin' ten long ones. All this track adds up to over an hour of solid drivin', if you're 'ard enough to get all the way through like I am.

An' when me an' Shaz are in the front seat with the furry dice an' the sunstrip with our names on there just ain't no stoppin' us mate, I can tell ya.

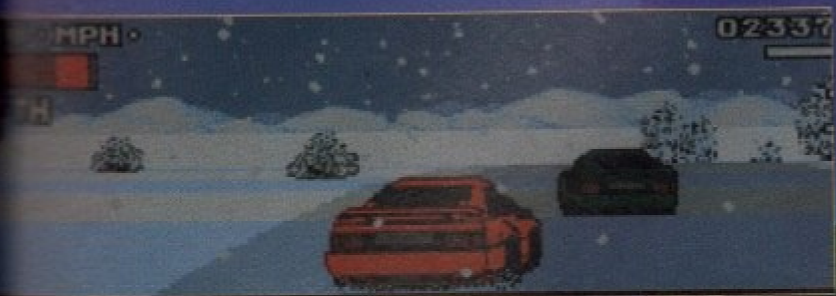
The eight levels take the driver through a variety of landscapes, each of them presenting their own little problems, like. For example the marshland (level seven) has some track between certain checkpoints surrounded by deep water.

You go off the track pal, then you're in deep, mate. Ha ha ha! Geddit? Or the snowbound level gives a near pure white background (where's the track, man?) and some mean patches of ice that throw you off course in a wicked skid.

The fifth level with the fog is the really smart one – the way they've got the effect of the grey blanket just out of



The fog effect is superbly executed



Snow and ice present some tricky problems, like staying on the road



Driving at night gives you the opportunity to drive on the wrong side of a motorway

VISION
GGGG
Smoother than a baby's bottom.

AUDIO
GGGG
Thumpin' tunes mate!

PLAYABILITY
GGGGG
More playable than Cynthia.

ADDICTION
GGGGG
Ride that joystick to oblivion.

91%

...etween ...by deep ...n you're ...? Or the ...ar pure ...e track. ...es of ice ...wicked ...the real- ...got the ...out of

...y you favourite postion

...CHALLENGE 2

...meg **Joystick/Keyboard • Out now**

reach in the distance is well sorted ('ey, was that poetic or what? All the birds love a poet, believe me). The same effect is used in a different way on the night time of level six, black in the distance but one of the neat touches is that if you go through a tunnel everythin' becomes fully illuminated, like, by the tunnel lights.

It's well ace – both these levels really get across the uncertainty of drivin' like a maniac in poor visibility, an' I should know. You're slightly on edge all the time because you know that the road could disappear around a corner, leavin' you behind at any minute.

The two-player option is where the game starts to come into its own. The split screen – only in two-player mode this time around, fact fans! – means that you get some really sound action as you try and chase down your human opponent, and if you're really clever you can keep 'arf an eye on 'is screen an' try and move around so that you get in 'is way when he tries to get past, like. Really smart.

What is even more smart is that you can now link up two Amigas to get four player action! Wow! With two players on each machine using the old null modem link (what?) you can get some well ace races goin' between the four of ya. Well smart. Even three players is pretty damn groovy. In short I reckon it's well sorted.

Cheers! Trev.

Thanks Trev, Jools is back for the techie bits.

It is different enough to warrant a purchase from those who have completed the original. In other words it is a standalone game in its own right, not half a sequel like some I could name. The graphics are up to the same smoothly animated standards that knocked your socks off in the first one. Each track-side object uses 17 sprites as it moves nearer then past your point of view to get that really smooth impression of speed.

The handling is superbly observed, just like the real thing. Lifting your finger briefly off the power on a hairy corner will pull you in enough to get around and this can be used to your advantage to get past some tricky opponents on the inside line. Sound is excellent – the high standard in-race effects are complemented by high class tunes, a separate one for each level, but the CD player of the first one, which I loved, is missing (bawl).

One big improvement is the way that the one-player game gives a full screen display, as opposed to the cropped one of the original version.

I have to say I preferred the original because there was more to it – the pit-stops and the levels of difficulty – and I personally preferred the challenge of racing 18 or 19 opponents rather than the clock. But racing against the clock means continual pressure, and therefore continual entertainment, and it is only my preference.

There are very strong merits for the checkpoint approach, one being that you never get to first place and never stand the chance of getting bored. Taking a whole different approach was brave but it means that this is a worthy purchase whether you have the original or not. So, a highly addictive standalone product, and not a rehash cash-in sequel. Well worth the money.

Jools



Beating up the T1000 takes place in three of the levels. Arnie is on the left



This is the really dodgy bit that is extremely easy and ruins about ten minutes of your life every time that you play



The digitised scenes from the film liven up the loading sequences

I wish he hadn't bothered coming back

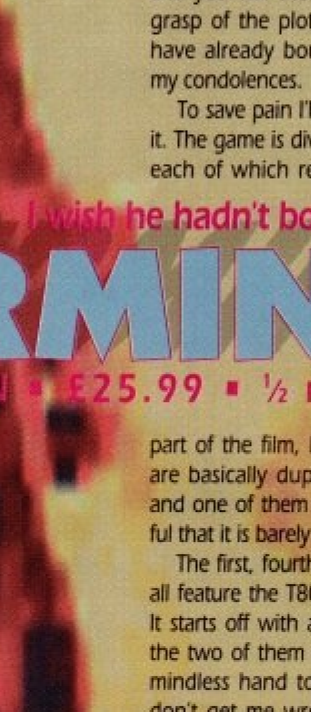
TERMINATOR 2

OCEAN ▪ £25.99 ▪ ½ meg ▪ Joystick ▪ Out now

If you haven't seen the film or you are not fully aware of the basic plot then I'm not going to bother wasting space here. One of your mates will be more than willing to fill you in on the ins and outs of the film, and you will therefore have a suitable grasp of the plot of the game. If you have already bought the game, then my condolences.

To save pain I'll get straight down to it. The game is divided into three levels, each of which represents a particular part of the film, but the three of them are basically duplicates of each other, and one of them is so unbelievably awful that it is barely worth talking about.

The first, fourth and eighth final level all feature the T800 fighting the T1000. It starts off with a bit of gunfiring then the two of them move in a for a bit of mindless hand to hand violence. Now don't get me wrong – it is well implemented, but it appears three times and it eventually gets repetitive.



The second level features Arnie and John on a Harley Davison trying to escape from the chuffing juggernaut bearing down on the two blokes. This part takes the form of a vertically scrolling thingy where the bike has to jump over ramps, avoid rocks and trying to pick up the odd bonus here and there. If the bike hits anything then Arnie loses some energy, if the truck hits the bike from behind then John loses energy. In the words of the esteemed Gamer ace reviewer, Biffa, it "looks like something out of shoot-'em-up Construction Kit".

Level three is the first of the two puzzle sections that involves you rearranging square pieces to reconstruct Arnie's damaged arm. This section is reasonably easy as all you have to do is pick up the piece and move it to exactly where you want. If you complete it within the given time then Arnie's energy is fully restored for the next level. Complete half and he only gets half his energy back.

Level four is another dodgy fight scene, while Level five is a slightly more complex puzzle section that takes the form of one of those infuriating sliding puzzle games that annoyed me when I was a kid as you try to reconstruct Arnie's face. The same bonuses apply as in Level three.

Level six is a painfully slow and truly yawn-inducing horizontal shoot-'em-up as you fight your way past the unintelligent security guys outside the Cyberdine Systems HQ. This bit is just so mind-numbingly grim that it doesn't bear thinking about. The sooner I find the level skip cheat the better.

Level seven sees you in control of the kidnapped swat van as Sarah tries to shoot down the pursuing helicopter while you keep the thing straight enough for her to get a decent aim. This bit is reasonably entertaining but like the whole damn game it is just too short.

The final bit is another boring scene.

The game is well coded, and some nice graphics and compe sound. The problem is that it is c pletely lacking in any decent concep thought and it is far too short – I co pleted it within an hour and a half opening the package and each ga takes approximately 20 minutes to fin

If I had forked out £26 for two ho entertainment, including about twe minutes of naff bits, I would be mig annoyed. Not even the free T-sh would stop me from starting the po lar revolution.

Jo

VISION GGGG
Digitised anims from the film fit in well.

AUDIO GGG
Sinister backing tune and heavy effects.

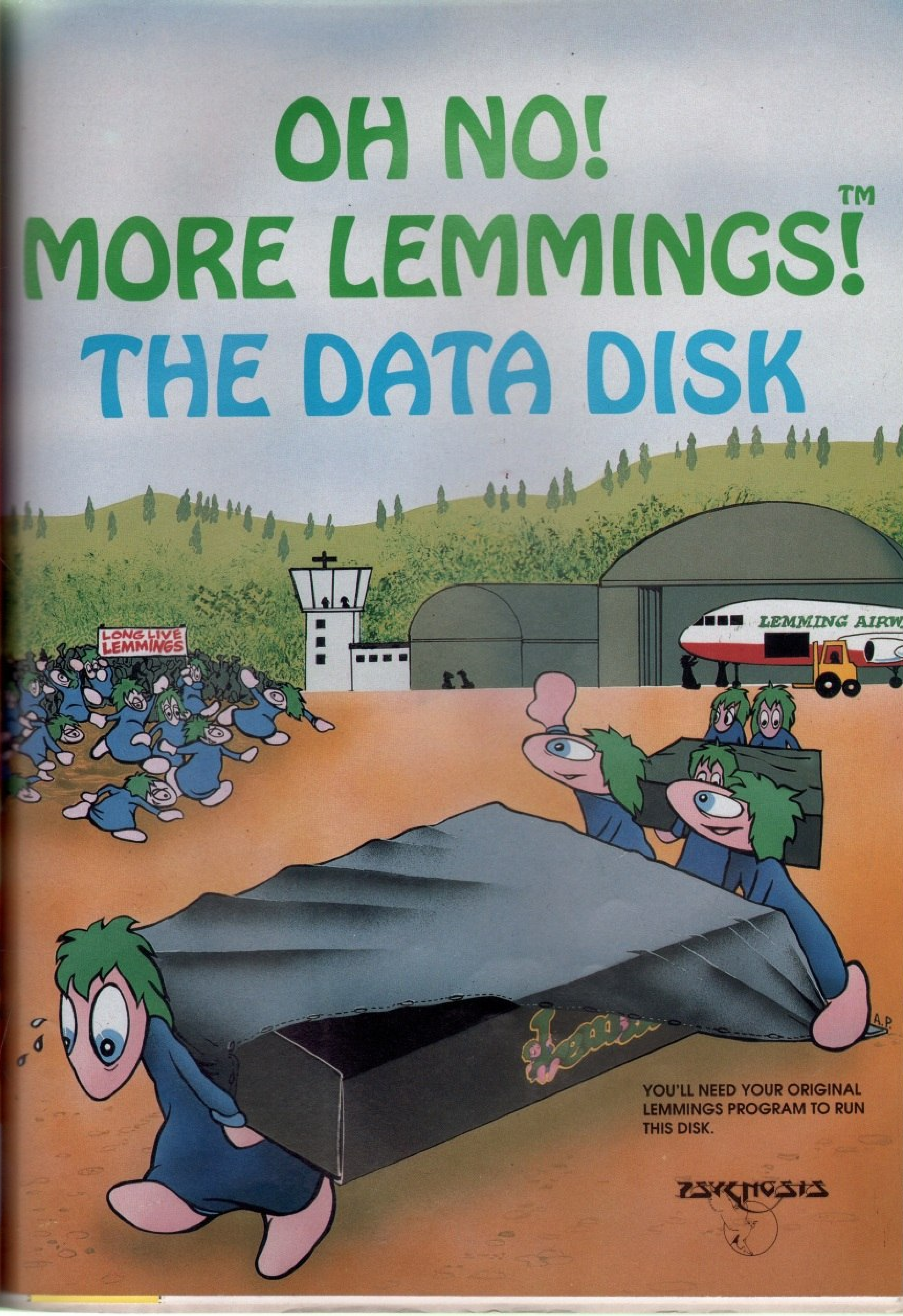
PLAYABILITY G
OK, but not enough of it.

ADDICTION
Don't be silly.

40%



Riding the bike down the storm is the best level of the game


OH NO! MORE LEMMINGS!™
THE DATA DISK
LONG LIVE LEMMINGS
LEMMING AIRW
YOU'LL NEED YOUR ORIGINAL LEMMINGS PROGRAM TO RUN THIS DISK.
PSYGNOSIS
A.P.



Even the security guards look as though they should be in a museum

VISION

Cartoon style graphics with a sense of humour.

AUDIO

Wacky effects but an average tune.

PLAYABILITY

Loads of challenge for the world and his wife.

ADDICTION

Might as well weld the joystick to your hand.

85%

Theft for theft's sake

HUDSON HAWK

OCEAN • £24.99 • ½ meg • Joystick • Out now

By all accounts Bruce Willis's whole career has been based around the premise of saving up enough money to be able to make the above film. When he started off in his acting career he handled his own promotion. Calling it Hudson Hawk Promotions, he had a dream of producing a film based around this Hudson chappie that he dreamed up when he was at school. I haven't seen it but by all accounts, he shouldn't have bothered.

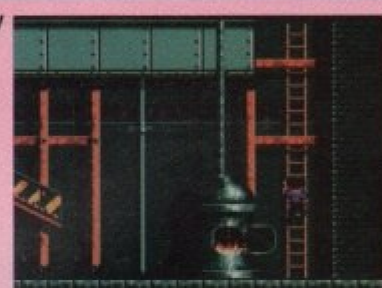
Well maybe he should have. Because if ol' Brucie babes hadn't produced and starred in said piece of cinematography, software industry history may not have been made. What am I talking about? I'm talking about an Ocean film licence that is actually damn good, playable and worth the 25 quid.

The game takes the form of a platform style adventure, the kind of thing that features simple puzzles for opening doors and requires pixel perfect leaps and bounds to ensure that an untimely death is not met.

You control Hudson whose only real weapons are his big boxing glove and some baseballs if you hold the Fire button down long enough. These baseball are crucial for throwing some of the switches to open doors and the like. Divided into three levels, reflecting the three major crimes of the film – the Auction House, the Vatican and the Leonardo da Vinci Museum – the game has a total of 18 big stages. Each of these must be learned off by heart before they stand any chance of being completed frequently enough for the player to stand any chance of finishing the whole game.



A lot of box shifting has to go on very quickly if you hope to beat the clock



It is only the first level and this part is where it gets really difficult



It may not look like it but this is a clue to what you have to do

The Auction House sees Hudson begin the game on the roof, trying to find his way in, then inside as he dodges the security cameras, dogs, and tourist kids who will try to slow him down by dazzling him with a flash. The style of this first level, while increasing in difficulty with the later stages, encourages the player to keep moving and try and make decisions on the run, rather than slow down and get bogged down in trying to work out what to do. He who hesitates is lost. He who dares wins. He who buys me a pint is a good lad.

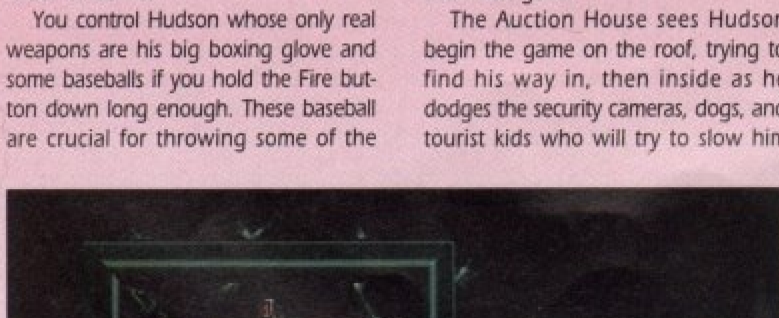
The Vatican has a lot in common as far as the idea behind the gameplay goes but is completely different in execution, the behaviour of the enemies, the styles of its puzzles and its graphical style.

Leonardo's Museum, though, becomes almost like Lemmings at some times with switches having to be activated at one end of the room while a door opens at the other for later use. It all starts getting very complex but you have to keep moving, because – being a thief – time is of the essence.

Controls are the usual jump and run style thing, but there is a certain amount of inertia built in which means that Hudson takes a while to get going, and he has to skid to a stop or to turn around. This adds another little dimension to the gameplay as you have to be ever so careful of where ol' Hudson is going.

It all ends up as a very good looking platform game with heaps of action, acres of game area, a pile of puzzles and mountains of gameplay. Rick Dangerous had better watch out.

Jools



Cracking the safe gives a break from the frantic baseball throwing of before


Knightmare



I magine, if you will, a mutant creature. A horrendous genetic hybrid. A blemish on the face of Mother Nature. A terrible cross between Ronald McDonald and Richard Stilgoe. Pretty scary isn't it? Well, boys and girls, pull your duvet tighter around you because that just about sums up what Rolling Ronny's all about.

Ronny's a clown you see. He's got a cheery red fright wig and a "humorous" nose, plus all the other violently amusing features that Ronald McDonald, that friendly face of international consumer conglomerates, possesses. Ronny's also taken to wearing roller-skates all the time, like that sad old git Richard Stilgoe in his "highly acclaimed" musical, Starlight Express. Crikey. Hardly



First you have to do the Police's work for them, now you're a blimmim' postman!



Oho! how can Ronny get past that amusing comedy banana skin to get those goodies? Maybe an icon will help

Lock up your bus pass! It's...

ROLLING RONNY

VIRGIN • £24.99 • ½ meg • Joystick • Out now

the most inspiring blend of characters is it?

Such a blend could, theoretically, result in two types of game. It could turn out to be a platform game based around a roller-skating errand boy, or it could be a simulator of a synthetic tasting hamburger with a stupid beard that writes awful musicals. Luckily no one at Virgin could think of a game about a hamburger, so we've been given Rolling Ronny instead. Phew.

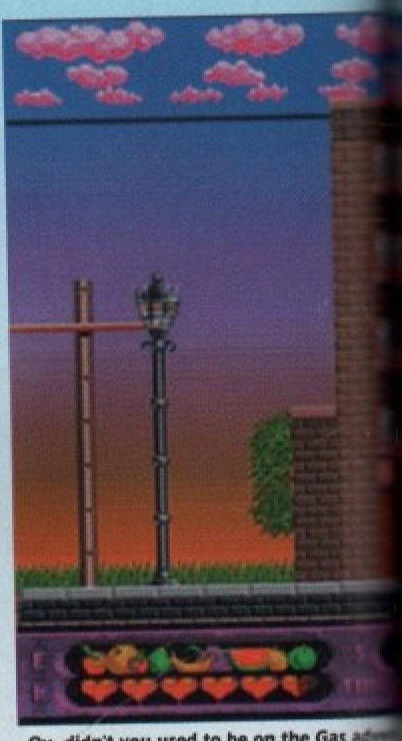
Ronny, our hero, lives in Fieldington, an unnecessarily zany and wacky fictional cartoon type town. Everything in Fieldington is cheerful and twee. It's the sort of place were people burst into song in the middle of the street, and all the buildings bounce from side to side in time to the music. It's that sort of place – not the sort where you want to wake up with a hangover.

Nor is it the sort of place to steal the Crown Jewels from, but that's what some highly stupid Fieldington thieves have done. Even more stupidly, rather than flog the jewels on the Black Market and move to Rio, the thieves have left the jewels in flashing boxes all over town. Criminal masterminds, eh?

Rather than getting the plods to earn their keep and gather all the jewels back together, they decide to do a spot of delegation and lumber our Ron with the job. I don't know, you pay your taxes, you're a responsible citizen and you end up doing the police force's dirty work for them. Fascist state or what?

Anyway, what it all boils down to is nine levels of scrolling platform action with Ronny risking life and wig to collect these flamin' jewellery boxes. It won't be easy though. Fieldington is a strange, and not entirely safe, place. All manner of spooksome objects float towards you, intent on wearing down some of you[r] health.

Cartoon cars, looking like the Anthi[ll] Mob's Chugabug from Wacky Races – and what a spanking cartoon that was – chunder towards you ready to knock you for six. For protection Ronny ca[n] leap on to higher platforms, or defen[d] himself by throwing salami at his aggre[ssors]



Oy, didn't you used to be on the Gas adv[ert]

Dr. Ronny's Patented Pick-me-ups

Spotty Teenager: Tell me Dr. Ronny, how do you keep your skin so... young looking?
Dr. Ronny: With my hypo-allergenic icons, that's how.
Spotty Teenager: Gee thanks. I'll never use ordinary soap again...
Dr. Ronny: Good, now sod off Spotty, I've got some icon explaining to do...



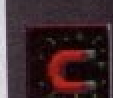
This rather springy little item will allow you to leap higher than a hungry piranha in Jeremy Beadle's toilet bowl.



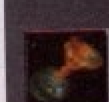
The "Powersneeze" icon acts as a smart bomb to destroy all the baddies on screen. Spookily, there's no actual sneezing involved.



One whiff of this dodgy coagulated and aromatic French cheese is enough to freeze everything for 10 seconds. I should think so too.

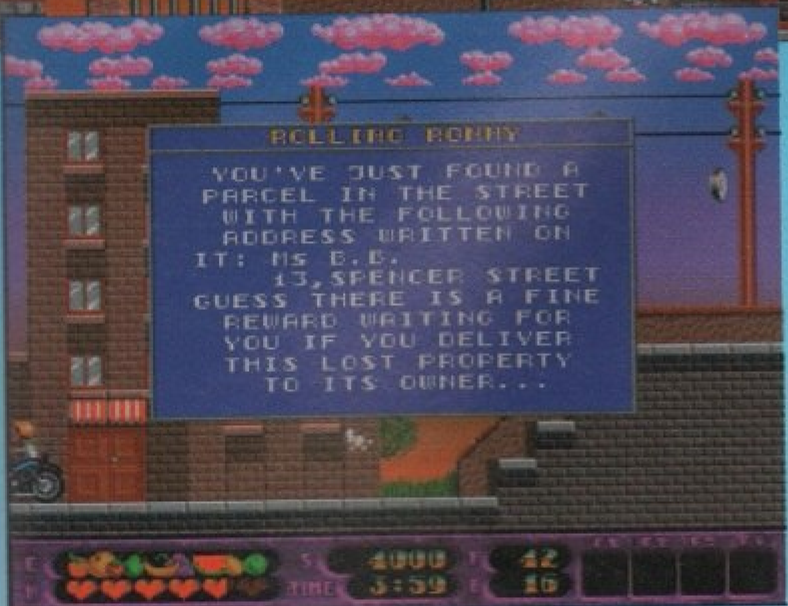


If you can't reach some of the higher up goodies then using the Magnetofluct will faithfully bring it to you. Just like Bonnie, the Blue Peter dog.



And of course, selecting a bicycle horn makes you invincible for a limited amount of time. Obvious really.





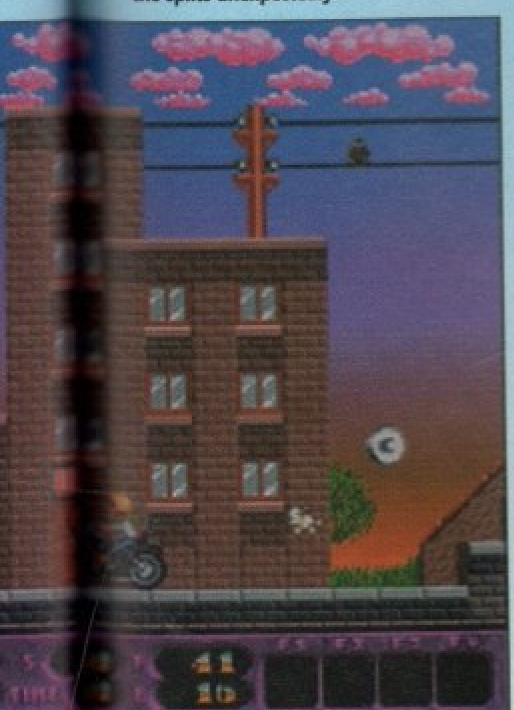
If you have a chat with that "peeler" over there, he'll give you an errand. And a clip round the ear, probably



The heavens open, and Ronny's seeing stars. Shoot them all to get loads of dosh



Perils of an errand boy – doing the splits unexpectedly





Ronny runs slap bang into the middle of a Red Arrows low altitude stunt display.

elp

as advert

f your

Anthill
aces –
was –
knock
ny can
defend
aggres-

sors. Why salami? No idea, and I've got a feeling that it might be best if we don't probe any further.

Also along the way Ronny can collect some bonus items to aid him in his quest. Some affect Ronny and give him super powers when selected, others will affect his adversaries to give Ronny some sort of sneaky advantage. Ronny can carry four icons at a time, and they're activated by hitting the relevant function key, in case you were wondering.

As well as looking out for icons and jewellery, you must collect coins which can be used to pay for icons in the shop and to pay for your bus fare to the next level. Coins can be found lying along the way, picked up by shooting the bad guys, or earned by running errands for the good citizens of Fieldington.

You see, every now and then, you'll come across some dopey looking citizen milling around in a rather useless fashion. Walk up to them and they'll offer you an errand. The errands usually involve taking an object to another person or location on that level, although sometimes you may have to retrace your steps to find it.

How much you earn for an errand will depend on how much the person is willing to give, but you can bargain with them at the risk of losing the job. This adds a much-needed human element to the tired platform genre, and may just be the thing that saves Rolling Ronny from total obscurity.

Sound is reasonable, although the sound effects are, well, non existent if the truth be told. The tune's great though. It's a boppy sort of circus tune that keeps you humming throughout the game, and also has that wonderful quality of annoying the hell out of everyone around you.

The graphics are very colourful, and they've squeezed in a fair wodge of detail too. The sprites are well varied, and suitably weird, with everything from flying paperback books to incontinent birds out to mark your card. The cars in particular are fun to watch, as are the bouncing unicycles in the sewers. Yep, Rolling Ronny is pretty damn surreal when you think about it. It's also what the Ancient Greeks might have called "a flippin' good game".

If I've got one criticism of Rolling Ronny, it's that it's just a bit too similar to all the other scrolly platform games that have mysteriously started to appear since the console market took off. It's very, very similar, for instance, to Ocean's Simpsons game, or Sonic the Hedgehog on the Sega MegaDrive. The little errand running bits go some way to make it special, but the essential gamestyle has been done a thousand times.

That aside, Rolling Ronny is a pretty groovy little game. It's easy to get used to and it's challenging, but not impossible. Not quite the coolest dude in town, but certainly cool enough to chill out and do his thang with the "Cool Posse". Whatever that means.

Daniel

VISION

Loads of variety, plenty of colour and some rather charming blended backgrounds.

AUDIO

An above average tune that tends to get annoying but no FX to speak of.

PLAYABILITY

The interaction with other characters makes the game more appealing than other platformers.

ADDICTION

It's not all that hard, but you'll keep coming back for more.

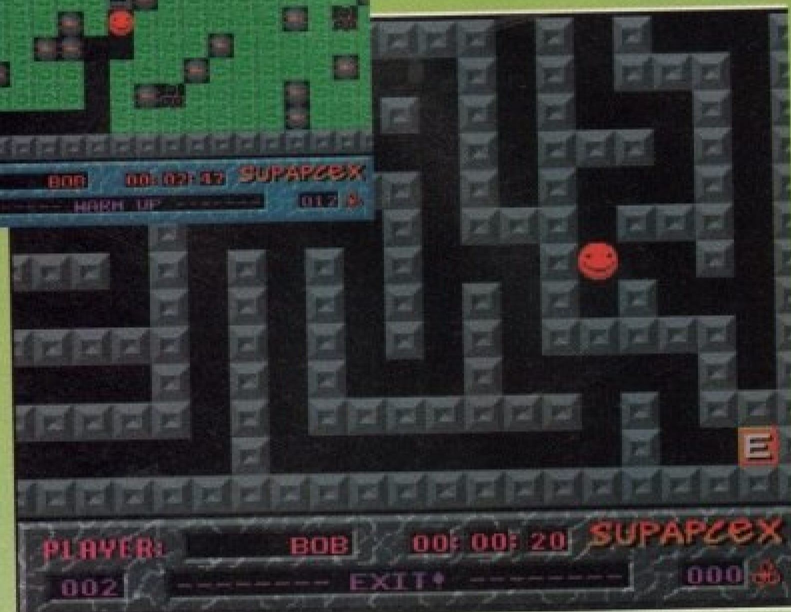
79%



Level one shouldn't be too much trouble, just to ease you into the game



That ominous pile of bouldery things looks pretty wobbly, but the wall prevents them dropping



A change from the usual levels. Nothing to collect, just a maze to negotiate

It's a puzzle game and, er, it's called

SUPAPLEX

DREAM FACTORY ▪ £25.99 ▪ ½ meg ▪ Joystick ▪ Out now

We've got a bit of a problem with this one. We've been sent the game, but without any instructions or packaging or anything. So we don't really know what's going on.

For instance, we don't know why you must control Harvey through 111 levels of mazes collecting little round ring-type things. We don't know what he is, although all the computer chips dotted around suggest that maybe he's some kind of microscopic troubleshooter who goes inside computers to collect little round ring-type things. Maybe.

Or maybe he's a really clever thief who's decided to steal loads of little round ring-type things and sell them to wealthy little round ring-type thing collectors. Maybe. As you can see, we don't really know what Supaplex is about.

What we do know, being the highly evolved games reviewer sorts that we are, is that Supaplex is a puzzler firmly in the mould of that crusty fave, Boulderdash. This involves manoeuvring "Harvey" around each level chomping through the ground to reach the little round ring type things.

To make life more difficult, each level is littered with metal balls which will fall if the ground beneath them is eaten away. This can be to your advantage, if you want to clear a path, but more often than not they'll drop right on your head and squash you.

Also there to liven things up are such wondrous items as gateways to other sections of the level, disks which explode taking out bothersome walls and gravity which stops you moving around the level at will, forcing you to build steps. Very clever.

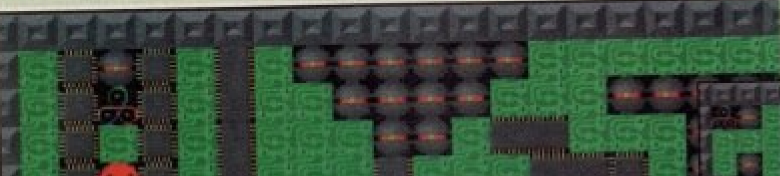
It's a pretty ancient game style, but the Dream Factory have tried to inject some new life into it with some nifty features. You no longer have a limited number of lives. Now you can have as many goes at as many of the levels as you want, with the emphasis on finishing all 111 levels in record time, rather than just trying to struggle on to the next level. You can also have several players playing after each other so you can battle against your chums and chumettes to get the fastest times.

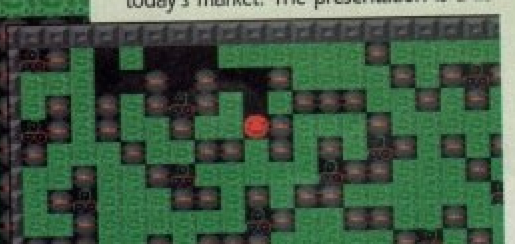
Hmm. Well, despite not knowing anything about the plot I managed to do pretty well. Partly because of the handy tutorial at the start which tells you what to do and what not to do, and secondly because of the "skip level" feature which allows you to jump over troublesome levels to the one after. What do you mean, cheat? You can't just jump to level 111 you know, 'cos you can only skip a level if the one before it is completed.

It's a fairly good fun game to play, although that much is pretty obvious to those who've played the original "Boulderdash", but I can't help but wonder how well a game like this stands up in today's market. The presentation is a little rough around the edges, as are the graphics, with only the sound saving it from total "eightbititis".

All things considered, Supaplex is a fairly average game. The new additions go some way to give it some welly, but its dated gameplay ultimately leaves you thinking that it might be better as a budget game.

Daniel





Plenty of ringy things to collect, but also plenty of things to splat you

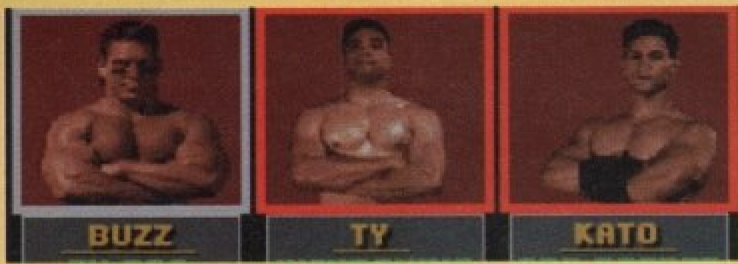
VISION
GGG
Hardly the most ground breaking ever seen, but sufficient.

AUDIO
GGG
A bearable tune, with a nice "oompah" bit when you finish a level.

PLAYABILITY
GGG
A tried and tested formula works well, but leaves it feeling a tad ancient.

ADDICTION
GGG
It'll keep you coming back for a while, until brighter things beckon.

67%



We three violent gits of Orient are:

Ty: A kickboxer, agile, sly and good with rice (so I'm told). His special moves are the spin kick, the flying kick and the Roundhouse.
Kato: The higest black belt ever, amen. He's quick when he uses the Combo Punch, the Flip Kick and the Backhand.
Buzz: A pro-wrestler who's never heard of Hulk Hogan would tremble with fear if he ever saw Buzz when he was using his belly flop, head butt or pile driver.



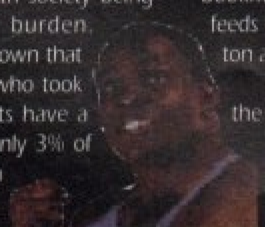
A swift toe to the right spot gets you out of any tricky situation



There is currently a debate raging in our office as to the moral and ethical aspects of violent games such as Final Fight and this one, Pitfighter. On the one hand it could be argued, with no evidence bar supposed "common sense", that it encourages violence and that "the kids" will be influenced by the extreme scenes they see and try to emulate them.

Soon after the release of such a game the streets would be awash with the blood of OAPs, dogs and other household pets that had been in the way at the time. The only evidence to support this is that soon after the previews and early reviews of US Gold's Final Fight appeared in the computer press, a game which includes a scene where the players must destroy a car with iron bars for points, the riots in Cardiff, Oxford, Birmingham and Newcastle took place. Damage caused to property was extremely high especially to private vehicles. Hmmm.

On the other hand there is the argument that seeing and taking part in such silicon violence is a form of therapy, a release for "the kids" who would otherwise be forced to vent their frustrations elsewhere, with society being forced to take the burden. Recent studies have shown that 90 per cent of those who took part in the recent riots have a home computer but only 3% of those could afford a copy of Final Fight, so in fact social deprivation is what's truly behind the troubles.



Frankly I think it is all a load of pretentious twaddle and you should all sit down, play the games and enjoy the bloodfest, revel in the mindless violence and smack anyone who tries to interrupt.

Well, enough of the polemic and on with the review. Based on the hugely successful and well ace Atari coin-op, Pitfighter comes from what is apparently the world's favourite illegal sport. Frankly I thought it was dwarf throwing, but apparently that is legal (dusgusting!-Social Conscience Ed.).

What pit fighting involves is lots of people who are addicted to blood and gambling but can't afford to pay to see someone's brain smashed in the Albert Hall. What they do instead is watch someone's brain get smashed in some abandoned dockyard while they all stand around and cheer and lose their money with some greasy-haired bookmaker who has a pet rat which feeds from the same Chinese food carton as him.



You take control of one of the three pit fighters – Ty, Kato or Buzz, and you try and guide them to victory over a series of mad opponents, who get madder by the round, who will do their level-best to kick seven shades of something or other out of you. The reason behind these extremes of violence is nothing so complex as a dispute over football or even an out of hand "did you spill my pint?" style ruckus. Nope nothing more than the greatest evil of all, money.

Should you win a fight you will be awarded a Fight Purse, a Knockout Bonus for how many knockouts you make in the round, and a Brutality Bonus for how, erm, brutal you were in the round. You know the kind of thing - did you call his Dad a wimp, his mother a whore and his grandmother an alcoholic? If not the bonus may not be quite so big. This money translates into a score. You can't actually spend it on anything but it gives you some indication of whether you are hard or just a wimp.

Each fighter has seven moves at his disposal, all accessed by holding down fire and moving the joystick in the th



"We're walking through the air..."



Every two matches there is a grudge match between the human opponents



Kato, your character, receives a cracker of a right hook from the Executioner



The leader of the National Fat Git- Lifting Competition shows off his talents

...ence in a Derbyshire coalmine

...GHTER



One of the other parts of the competition is dropping the fatty then flexing your muscles as a gesture of victory

...ARK • £25.99 • ½ meg • Joystick • Out now

...direction that summons the move you want. For example Fire, Up and Right (when facing right) will cause the character to perform a jump kick. Naturally this control method will cause some problems at first, moving instead of attacking and vice versa, but once you are familiar with all the moves a little practice will reveal some startling results. Probably how quickly the others flatten you.

The fighters also have their own special moves, usually three each (see box), but only one can be accessed at any time, the computer selecting which is the most appropriate for the moment.

As you progress through the rounds the playfield will be littered with more and more things that you can pick up, ranging from Shurikens to motorbikes (!). These items can be used by yourself or by your computer controlled opponents to cause even more damage in an already violent world.

The best thing to pick up is of course the Powerpill. Swallowing this baby will not only make you a wow at all Acid House raves this Christmas but it will also mean that your blows do twice the damage, and the opponents blows do half the damage for the duration of the effect. PCP, Angel Dust, you name it but nothing has a patch on this stuff, and to cap it all you flash green as well!

The graphical style is what makes this very playable game stand out initially, it uses digitised pictures of fighters in various positions for the sprites, they can look blocky but it gives it a very strong "look". In conjunction with this the game gives the impression of zooming in and out in by scaling the sprites and backgrounds in size to make sure they are always on screen at any one time. This can occasionally make the animation look a tad stilted as it zooms and pans but surprisingly the speed suffers very little.

Playability is superb, especially in two-player mode where you get the chance to beat up each other as well as the bad guys, and the variety of moves from the vicious opponents is enough to keep you guessing through the many levels.

Even if you do get some of them sussed there is always the challenge of getting that bit quicker at knocking them down as each bout is timed. Get a knockout in less than 50 seconds and you get a special bonus for a record knockout.

In short it is highly addictive violence, great for expending some hormones in a non-sexual way, and it certainly beats chucking petrol bombs around a council estate (absolutely – Social Conscience Ed.).

Jools



The kinky leatherware character called Angel flashes her kinky boots at Kato

VISION – Stylish animation with some new ideas.

AUDIO – Loads of meaty slaps and tickles.

PLAYABILITY – Loads of violence and blood and guts and ...

ADDICTION – Better than American Psycho...

90%



The best graphics ever seen in a shoot-'em-up? Could well be



Negotiating the deadly skies of the necropolis left by Satan's rampage



Yet another gratuitous picture of the sexy background graphics



Under Satan's rule, even the Andrex puppy is dangerous

Muffin's back... and this time he ain't no puppet

PEGASUS

GREMLIN ▪ £25.99 ▪ ½ meg ▪ Joystick ▪ Out now



The twisting flames of Hell provide a mind-blowing diversion on later levels

Those Ancient Greeks knew a thing or two about mythology didn't they? All those monsters and mutants leaping about chopping each other into little pieces. Brilliant.

And of course, ruling over all the monsters and mutants was Satan. Except he wasn't, 'cos the Greeks didn't believe in Satan. They had enough trouble from all the grouchy gods up on Olympus, never mind having to put up with Ol' Nick.

Still, whether they believed in him or not, for the purposes of this game Satan does exist. And what's more, he's taken over the world. Gasp. Yes, Satan has taken over the four planes of existence and posted tons of his smeggy minions in them to keep it that way. Looks like a job for one of those lone hero types.

Luckily, Greek mythology is bursting at the seams with lone hero types so it's pretty hard to moan about how only one bloke has been sent to do an army's job. That's the way the Ancient Greeks did things you see. Something to do with honour I suppose.

Personally, I'd rather just "send in the boys" than hack and slash my way through countless demons and spooks, but then I'm a bit useless at things like that. Perseus on the other hand, is great at the old hacking and slashing, so it's him that you control. The game is similar to Thunder Jaws, also reviewed in this issue, in that the levels alternate between a traditional scrolling shoot-'em-up and a ground-based horizontal bash-'em-up. Also like Thunder Jaws, it's not half bad. It's not amazing by any means, but it's a fun little blast. And here's why...

As you fly through the first level, astride Pegasus, the enemy zoom in to attack in fairly predictable patterns but their sheer volume prevents it becoming too easy. You fight back with fireballs from your sword, which can of course be upgraded by collecting enough cash. Cash comes in the form of diamonds, which are left behind when a wave of baddies are destroyed.

The graphics are very scrumptious indeed, with plenty of colour, lightning flashes, bucket loads of parallax scrolling and some truly incredible animation on Peggy himself. As the levels progress, the background graphics become more and more dazzling, right up to the swirling flames of Hell.

The sound is well suited to the game, as thunder punctuates the explosions and "zap" effects. It all adds up to a pretty impressive introduction to the game.

Once you've flown around for a bit, Pegasus dumps you on the ground and bogs off for a bit. This leads into what we in the business call the "walking around levels". The "walking around levels" are just as impressive as the flying bits.

Perseus leaps and chops away at all manner of bogus beasties, ranging from scorpions to killer turkeys, with all the enthusiasm of an NME reader with a hammer in a room full of MC Hammer records.

Every now and then you'll come across something bigger, like a massive, drooling, blood encrusted hell hound. As you can probably understand, these fellas take a right pasting before they sod off. Along the way you'll also discover secret levels full of lovely diamonds, and paths under and over the various hazards that face you.

So, it's a scrolling shoot-'em-up, it's pretty good, and, er, that's it. On balance I'd say that Pegasus has the edge over Thunder Jaws for two reasons. One, it's a lot nicer to look at and the graphics have obviously had a lot of work put into them and two, it's that little bit faster and smoother which in turn makes it a smidgeon more playable.

If you're thinking of buying a shoot-'em-up this week, then you could do worse than to splash out on a copy of Pegasus. Very pleasant indeed.

Daniel

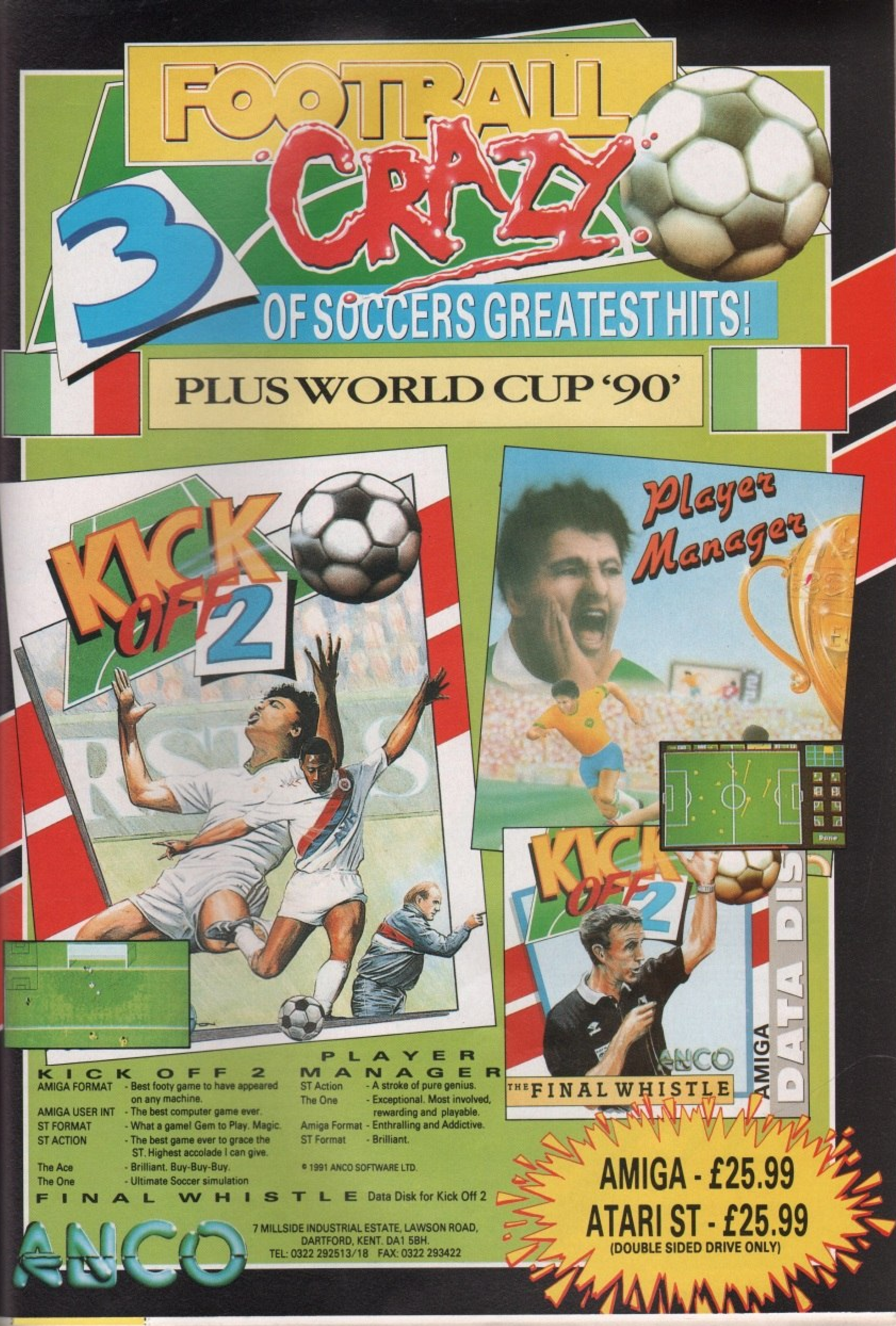
VISION GGGGG
Some great animation, plenty of neat touches and truly beautiful backdrops.

AUDIO GGG
Not a bad tune, and some effective FX.

PLAYABILITY GGGG
Everything is smooth and it plays like a dream.

ADDICTION GGGG
As addictive as any shoot-'em-up can ever be.

80%

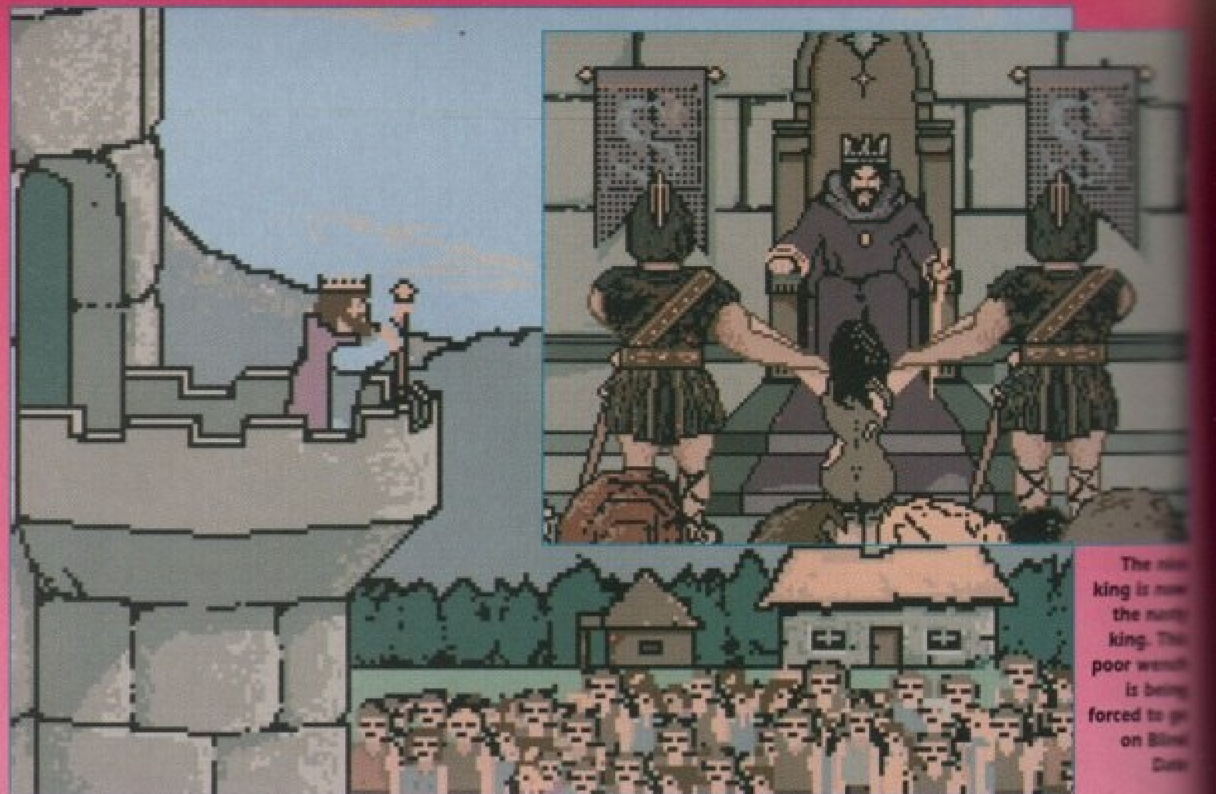

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Some people can be so spiteful can't they? Take, for example, the parents of the hero of this game. Picture the scene: Mrs Williams has just given birth to a lovely, bouncing baby boy, complete with ginger hair and Douglas Fairbanks goatee beard.

He's a swashbuckling adventurer through and through. And what do they decide to call him? Bob? Jim? Montgomery? No, they decide to call him Maddog. What a pair of gits.

Imagine the childhood that poor old Maddog must have had. Teased all the time by the kids at school, all the teachers sniggering when they took the register and as he got older he found that no one would cash his cheques. It's no wonder that he threw aside all thoughts of becoming an adventurer and decided to stay at home and invent things instead.

So the years passed and Maddog went about his inventing. He never thought to invent something that would benefit mankind though, like a computer that could figure out why people watch things in which Jimmy Tarbuck appears. Oh no. He invented such useful items as an alarm clock that tips water over you in the morning, and a beer server that catapults glasses off the bar. Which is probably why nobody ever heard of him. Now, while all this was going on, a terrible evil was spreading throughout the land. As we all know, terrible evils do tend to spread through lands quite a lot, and more often than not, when they do there's always only one man who can stop it.



It's the king, unaware that another of those annoying evil forces is about to take over his soul

The new king is now the nasty king. The poor wench is being forced to go on Blind Date

Buckle up your sw

MADDOG

GAME CRAFTERS • £29.9

Guess who it is this time? Yup, it's Maddog Williams. So it's up to you to guide Maddog through his quest to rid the land of evil, save the damsel, make friends and influence people and so on.

Your mighty quest begins at home, with very little notion of what awaits you. Just like Monday morning in the **Gamer** office. You basically go about your business, inventing useless things and getting thrown out of pubs, until you pick up some clues and take it from there. Quite a nice change from the strict linear plots of other games of this ilk, I think you'll find. Oh yes indeed.

The more astute of you will have already seen the screenshots and decided that Maddog Williams looks more than a bit like the Sierra games. Well, you'd be right: it is a hell of a lot like them. The graphics, in particular, are a dead ringer for the Kings Quest series, with their chunky sprites and colourful fairy tale backgrounds.



The humour is there too, although some of the jokes in Maddog fall flat on their faces. It would appear that most of the humour in Maddog is unintentional, or at least all the bits that I laughed at were. Would you believe that just down the road from Maddog's house is a satanic temple where they sacrifice virgins with alarming regularity?

Don't think that I don't like the game, because I do, it's just that Maddog's sickeningly twee attitude is a real pain in the backside at times.

For instance, when Maddog is being flung about violently by some tentacle thingies in an underground cave, I tried to CUT TENTACLES, to which Maddog replied "I'd rather not", or when Maddog is downstairs in his antique shop, and refuses to take any of the weapons from the shop on his quest. A choice of maces, crossbows, battleaxes, and he takes his little sword. A few 10p's short of a phone box or what?

This sort of moralistic restriction can make the more mischievous game player feel a bit held back, since you can't search other people's houses or nick things. Still, I suppose it's good for the soul or something. Mind you, for the really evil players, you can always get



The Readers' Digest handy map of the land of marinor.





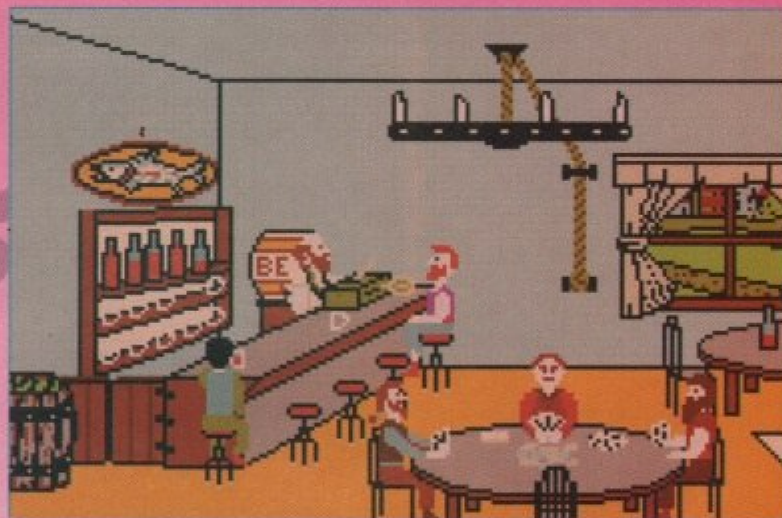
Maddog Williams and the Temple of Doom? This cheery place is just down the road from his house



Aha! Maddog dazzles a pirate with his amazing three combat moves



Oooh, saucy. Maddog gets grabbed by the tentacles. It's going to be one of those days...



Straight after breakfast, Maddog heads for the pub. A man after my own heart

nice now asty This nch ing go ind ate

was and free the kingdom

GWILLIAMS

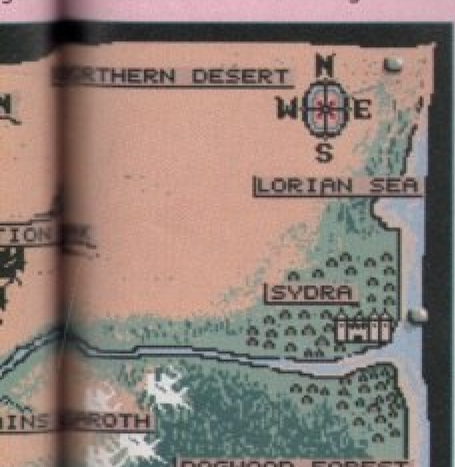
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vio- an EN- "I'd wn- s to hop oss- ittle one can lay- an't ick the the get



Maddog wakes up, stretches and heads off downstairs to watch Wacaday. Sad, sad man

Maddog stoned on the magic mushrooms in the forest (evil cackle). The game comes on a mammoth five disks, with the first disk containing the introduction and the remaining four disks holding the game.



Each game disk is divided into two chapters – where a chapter is basically a section of the map – and although you can walk from one "chapter" to the next, you can only progress properly if you complete a special task in each.

In chapter one you must rescue a fair maiden from the satanic temple, in chapter two you must find your way across some quicksand. Each time you complete a task, or appear to be following the correct route, a burst of music lets you know that you're on the right track.

The feeling of an epic adventure is very cleverly captured. I've been playing the game for days now, and haven't reached the third disk yet!

The way that you can just wander at first, and chat away to the locals about life in general is great, although a Lucasfilm–style conversation wouldn't go amiss. As it is, you have no control over speech, and end up just listening as some of the more senile inhabitants ramble on for hours about fishing trips. The characters could have done with a little more personality as well. In a game as involving as this, it really adds atmosphere if you can build up some sort of relationship with others in the game.

Who could ever forget the infuriating used ship salesman in Monkey Island, or the embarrassing storekeeper in Leisure Suit Larry? Still, it's a minor point, as the characters really only exist to give you clues and ideas on how to progress, and this they do very well.

The sound is pretty dire. The music is distressingly bleepy and the FX are not what you would call inspiring. It's not bad enough to spoil the game, but it's a pity that more couldn't be done.

On the sunny side, the graphics are nice and clear, if not very well drawn, and sum up the pleasant feeling of the game. The animation is a tad on the sticky side though, with Maddog's walk looking like that cheery childhood hero, Bod. But this doesn't really matter because the gameplay is geared more to chin–stroking pondering, rather than frantic running around.

All in all then, a wonderfully creamy little Pontefract–cake of a game. The puzzles are tricky, but always blindingly obvious in the end, and the graphics set off the atmosphere perfectly.

It's the sort of story that always seems to crop up in cheesy French cartoons on Childrens' ITV, and as such may appeal more to the wee ones than to die–hard adventurers, but a bit of a corker nonetheless. Gorgeous.

Daniel Whitehead

VISION
G G G
Chunky little stick-men, firmly in the Sierra mould, but some nice, bright backgrounds.

AUDIO
G G
A worrying tune and pretty bogus FX.

PLAYABILITY
G G G G
If you can put up with Maddog's moralistic poncing about, then it's a truly great game.

ADDICTION
G G G G
Once you start on a game like this, it's impossible to stop until you finish it.

88%

Biffa's cheat mode

Biffa rounds up the latest scandalous short-cuts and cowardly cheats

SUPERCARS 2

If you're driving round the old supercars track and being beaten to the finishing post by every single car on the grid, enter player one as WONDERLAND and player two as THE SEER and not only will you qualify regardless of your final position, you will also find your car more heavily armed than Arnie Scwarzenegger himself!





ELF

This cheat was happily provided for me by our own games editor Jools. He assures me that if you type in CHEAT on one of the talking screens, you will be told to type in CHOROPOO while playing. You will then receive 99 pets and your energy level will rise back up to normal.



GHOSTBUSTERS 2

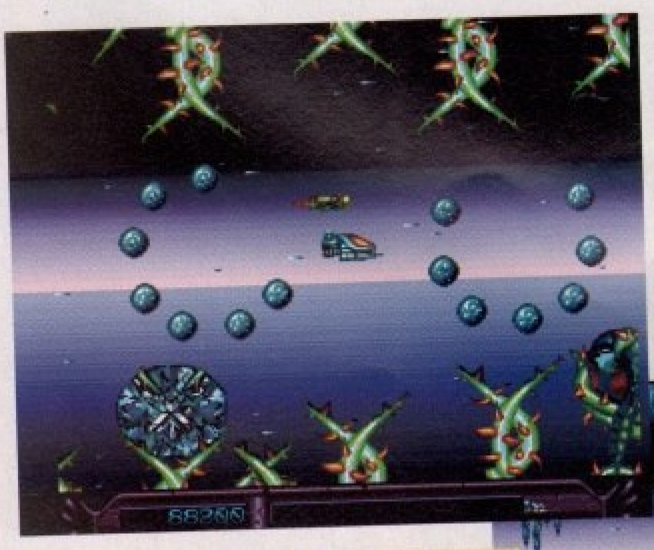
I ain't afraid of no ghosts, and you won't be either with this handy tip. When the Activision logo appears, all you have to do is hold down Alt, Control, T And "U". This will give you infinite energy on levels one and two but not on level three.



CONTINENTAL CIRCUS

This average racing game has just been re-released as part of Domark's new sports compilation Grandstand, along with Pro Tennis Tour, World Class Leaderboard and Gazza's injury simulator (oops sorry!) I mean Gazza's Super Soccer.

At the start of the race, when the first start light comes on, press up on the joystick and hold it there. When the second start light appears pull down on the joystick and hold it. When the green light shows push up you should start off with faster acceleration. If this doesn't work you need quicker reactions!





INDIANA JONES AND THE LAST CRUSADE

This great action arcade game has just been re-released on the budget label Kixx. If you type in IEHOVA on the title screen the following keys will produce the following effects. "2" – advances you through the start points of the level; "L" – advances you a level and "I" supplies you with an icon. Also entering your name as SILLYNAM into the high score chart will give you infinite continue options.

ARMALYTE

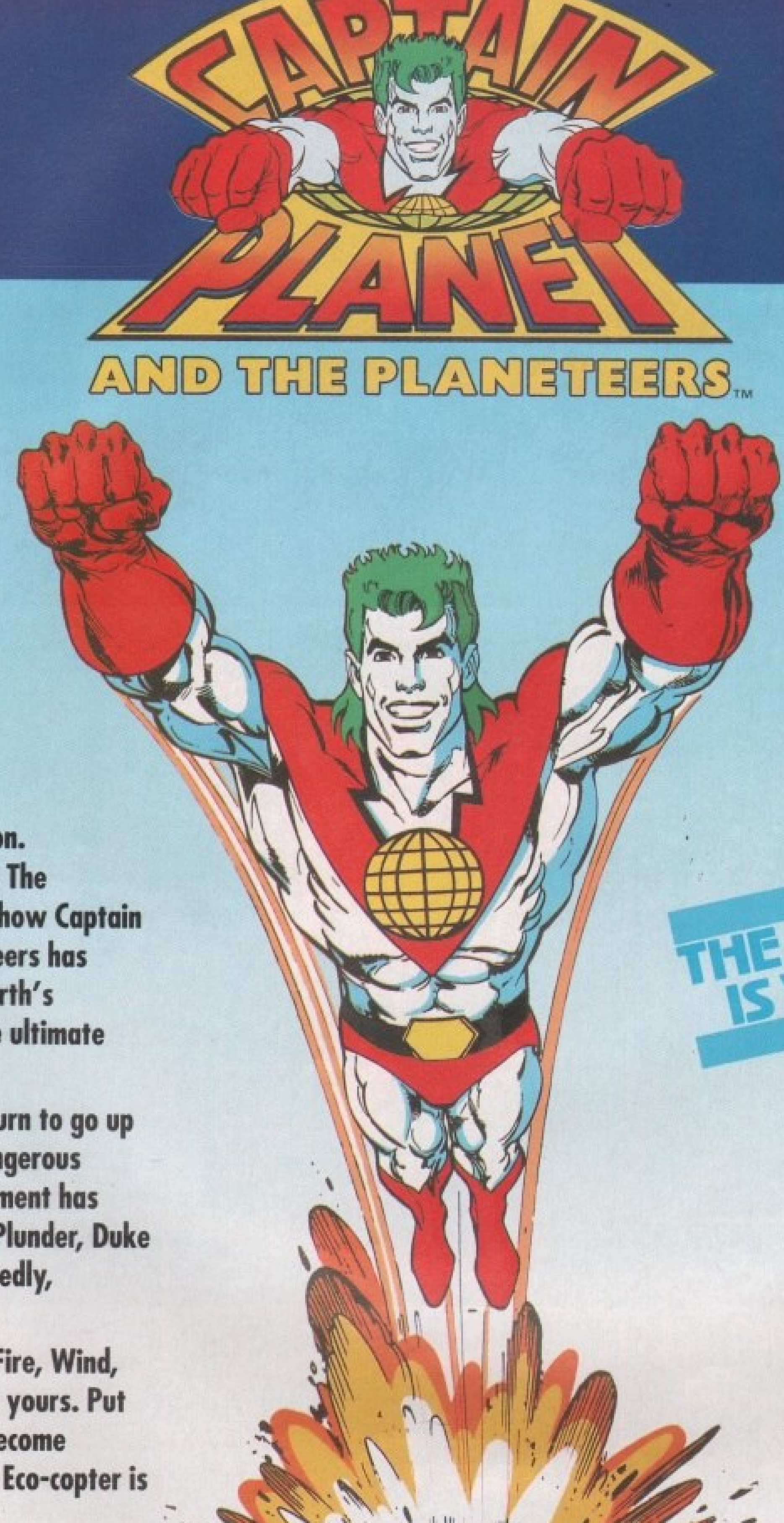
While playing this awesome C64 conversion pause the game and type in DELTA 3. Unpause the game and you will find that your craft has become invincible.

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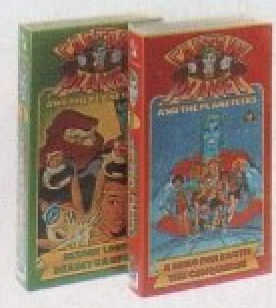


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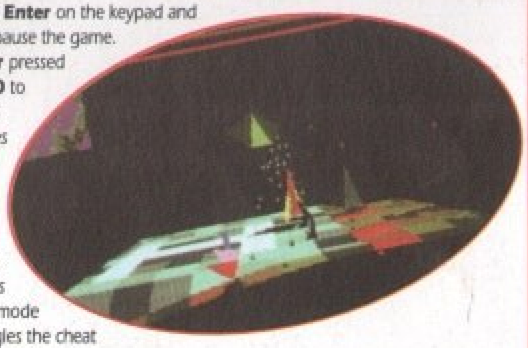
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GAMER GOLD TOKEN THREE

GAMER HAKPAK — SHOOT-'EM-UP

Virus
Firebird



Hold down **Enter** on the keypad and press **P** to pause the game. Keep **Enter** pressed and press **O** to unpause. **C** now toggles the special effects, **L** adds one missile, **F** replenishes fuel, **D** goes into demo mode and **N** toggles the cheat mode.

Army moves
Dinamic

In the first part of the game hold down **Alternate**, **D** and **1** for immunity. The code for the second part of the game is **101069**. To get immunity in the second stage press **Alternate**, **J** and **1**.

Defender II
Arc

Type in **GOATY** (that's **G O A T Y** – include spaces) on the password section to make yourself invincible

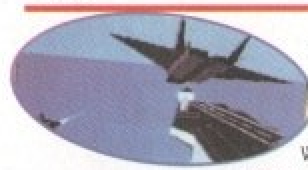
GAMER HAKPAK — SIMULATION

Fighter Bomber
Activision



Type in your pilot's name as **BUCKAROO**. This will allow you to attempt any mission. Hitting **D** will take you to the next target

F-29 Retaliator
Ocean



Enter your name as **THE DIDY MEN** (include spaces) on the duty roster. Pressing the **Enter** key will now, conveniently, land the plane for you. When you get killed, instead of restarting the game, wait until the service terminated screen appears and reset your machine.

When you reload the game the pilot will still be intact. Also, if you set up your mission as normal but do not enter the weapons selection screen, when you start the mission you will have unlimited thunderbolt missiles.

Operation Stealth
US Gold

Here's how to finish the last sequence. When the island surfaces, wait for the voice from the razor to appear and use the bottom cigarette on the computer. Then operate Otto.

Next, use the CD on the CD player and go out of the door. Use the elastic on the bomb and when you are falling, operate the boat. Now Dr Why's bomb won't kill you, but will bounce on the elastic and kill him.

Supremacy
Virgin

All you have to do is scrap a solar satellite on a planet that has no reserves of fuel, and you will be given a incredible 30,000 tons of fuel for your efforts.

GAMER HAKPAK — SHOOT-'EM-UP

E-Swat
US Gold

Just pause the game and type in **JUSTIFIED ANCIENTS OF MUMU**. Now unpause the game and you'll be able to play the game with infinite credits until it's beaten.

Forgotten Worlds
US Gold

This game can prove tricky if you don't type in **ARC** on the title screen and then press **N** to skip levels or **S** to go to the shop during play.

Gremlins 2
Elite

Entering your name as SINATRA on the high score chart will provide you with infinite Billys.

GAMER GAMER GAMER GAMER GAMER

GAMER HAKPAK — SPORTS

Nitro
Psygnosis

Enter your name as **MAJ** (M A J) for stacks of fuel and a huge wodege of money

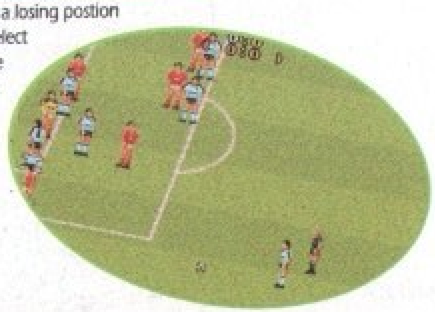


Test Drive 2
Accolade

You can get gas at any time simply by typing in GAS. You will automatically be shunted to the nearest petrol station

Manchester United Europe
Psygnosis

If you find yourself in a losing postion press the button to select two player game. The oppostion will freeze because no one is controlling them



GAMER HAKPAK — SHOOT-'EM-UP

Robocop II
Ocean

Type in **SERIALINTERFACE** as one word during the introductory screen. While playing the game you can hit F9 to top up RoboCop's energy or **F10** to skip to the next level.

Wings of Fury
Domark/Broderbund

When you're sitting on the carrier, after having selected your rank, type in **COLIN WAS HERE**, including spaces, then press **C** to change weapons, **F** for maximum fuel, **P** for an extra life, **D** to make you immune to enemy fire, and M for infinite ammunition.

Z-Out
Rainbow Arts

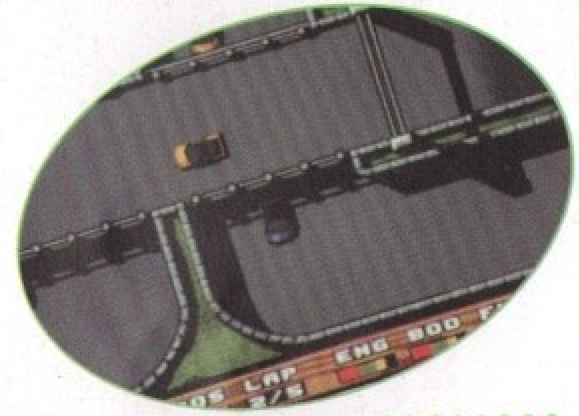
You can activate a cheat mode by holding down **J** and **K** simultaneously. Pressing **J** and a key between **1** and **6** moves you up levels while **J** and a key between **1** and **3** on the keypad flips you through the stages of the current level.



GAMER HAKPAK — SPORTS

Supercars
Gremlin

Type in your name as **RICH** to start with £500,000. Alternatively, enter your name as **ODIE** to go straight to level 2 where you'll find some new tracks.



Toyata Celica GT Rally
Gremlin

You can press C at the start of a race to stop the time ticking down. If, and when you crash, immediately press Help. This takes you to an options screen. Exit it and you can restart the engine without the 20 second time penalty.

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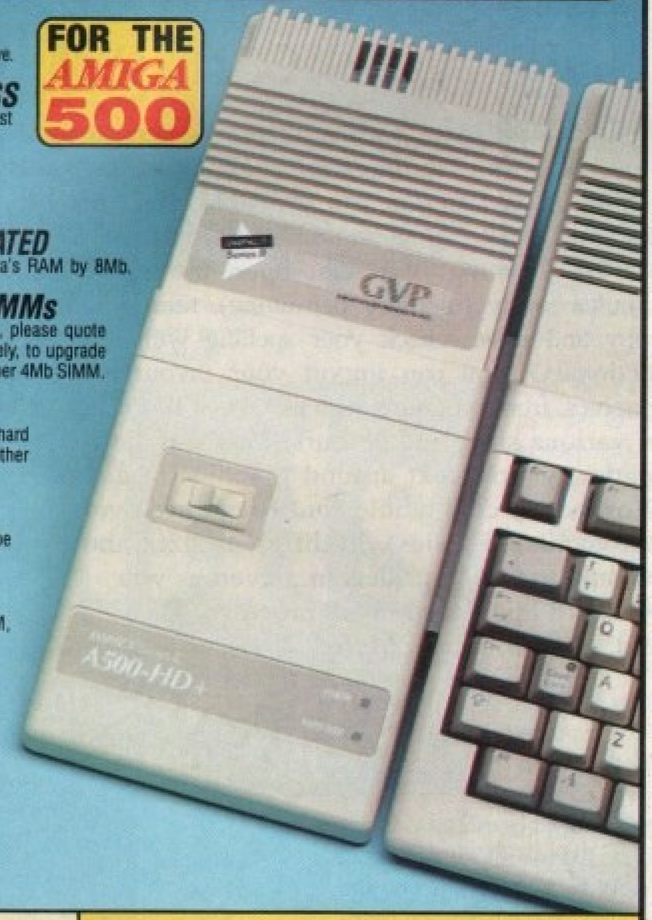
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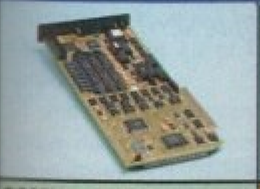
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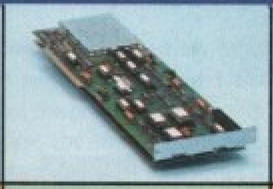


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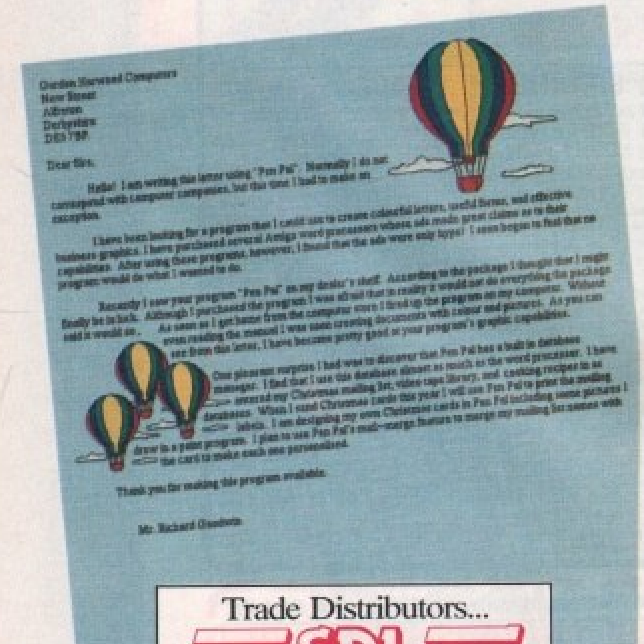
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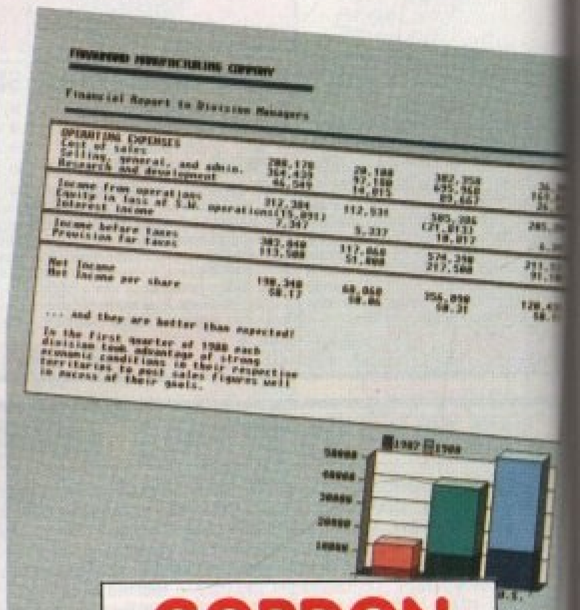
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Commodore A-500 Plus

Plus points

The A500 Plus has sneaked in through the back door. Stevie Kennedy apprehends and interrogates it

Hot off the production line, the A500 Plus offers Workbench 2.0, a full meg of chip RAM, and a lot more besides. Despite the release of the A3000, which was last year's biggest talking point, the A500 Plus is the most exciting development for the average Amiga owner since the release of the original A500. So what's the difference?

A500 owners, much to their despair, have always faced certain limitations. For one thing, the machine comes with only half a meg of chip RAM which cannot be expanded without a solder job. For another, there's no way at present of upgrading to Workbench 2.0, which A3000 owners have been enjoying for a year now. The A500 Plus blows away these limitations, and represents a leap forward in the baby Amiga's capabilities.

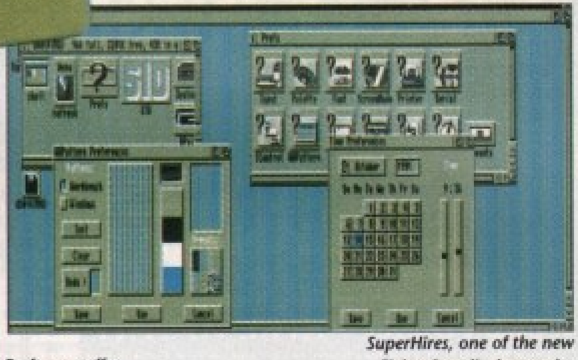
From the beginning of next year, say Commodore, the A500 Plus will completely replace the existing machine, though it is already available in certain Cartoon Classics bundles. We scrounged ours from Gordon Harwood, and it was supplied complete with software, manual, and games.

Quite why the launch of the new machine was so unheralded no one seems to know, least of all Commodore UK. Suffice to say that the new Amiga has had the most low key entry into the UK market of all of Commodore's machines.

Indeed, many recent A500 buyers have discovered to their surprise that their Cartoon Classic bundles conceal a lot more than they bargained for.



Prefs now offer much greater flexibility



SuperHires, one of the new flicker-free display modes



Avoid those messy icons by using the "view by name" option

Chips of delight

What's new? Ooh ... where do I start? The machine comes equipped with a 2Mb 8375 Agnus chip, the same as that fitted in the A3000, and a full 1Mb of chip RAM on the motherboard. In addition, the expansion slot hidden away in the trapdoor will now treat the first 1Mb RAM expansion as chip memory.

To test this, I tried an old Microbotics half meg card which on an old 500 would produce an extra 512K of fast RAM. On the A500 Plus the card's RAM was treated as chip memory, and the machine suddenly sported 1.5Mb – three times the previous limit!

To utilise the souped-up trapdoor, Commodore will be releasing an A501 Plus expansion board for it. Designed to bring the machine's memory up to a full 2Mb of chip RAM, the board will probably be sold in roughly the same price bracket as the existing A501, though at the moment it is unclear whether there will be any way of choosing what sort of memory the expansion board will add.

As an added bonus on the memory front, the A500 Plus's upper RAM limit will now be 10Mb as opposed to the 9Mb possible with the original 500.

With Workbench 2.0 and the Enhanced Chip Set (ECS) come several new screen modes. Possibly the most useful of these is the new "Productivity" mode, which can produce excellent effects when used with a multisync monitor.

Unlike Interlace mode, which requires a display enhancer to eliminate screen flicker, Productivity mode will output a 640x480 screen direct to a multisync with no extra hardware.

The mode is not available without a multisync monitor, but it brings CAD and DTP closer to the A500 by partially doing away with the need for expensive flicker fixers.

Stunning

With interlace, the highest screen modes now available are a stunning 1280x512 in SuperHires Interlaced, 640x960 in Productivity Interlaced, and 1008x1024 in A2024 mode. The latter is available with only four grey scales and only when using Commodore's A2024 hi-res mono monitor, but it is perfect for CAD and boosts the Amiga's serious potential enormously.

The A500 Plus is supplied complete with the very latest Kickstart 2.04 ROM and Workbench 2.04 on disk, so owners of the new machine will have the drop even on A3000 users. There's not enough room here to go through the all improvements offered by Workbench 2.04, but I'll attempt to cover some of the major points.

The screen display is now a cool and serious mix of blue, black, grey and white, and all icons and screen gadgets have been given a 3D look not unlike the Windows 3.0 system currently being used on PCs. Programs can now be viewed by icon, name, size or the date the file was last altered, thus offering the user faster Workbench screen updates and tidier windows without icons.

And there's more...

New Workbench preferences enable the user to choose the style and size of font used for icon names, screen text, and the system default text. There is also an option to give the Workbench screen and windows their own "filled" background. The user can choose from one of eight default patterns or design his or her own, personalising their own Workbench to a much greater degree.

You can format floppies using the hitherto hard drive-only fast file system, thus increasing their effectiveness, issue commands direct from Workbench by choosing the Execute Command option on the Workbench menu, or select entire groups of icons by dragging a box round them, then move them all at once holding the Shift key down.

You can also select your own Intuition preferences such as the background /foreground key presses (presently Left-Amiga-N and Left-Amiga-M), and even design your own icons with the excellent icon design program on the Extras disk.

Conclusion

The Amiga 500 Plus and Workbench 2.04 offer far too much to cover in detail here, but if you find your appetite whetted by this examination, left necessarily brief by the arrival of the A500 Plus just before our going to press deadline, you could do a lot worse than read our full report in next month's issue. We'll be covering Workbench 2.04 in more detail and will have a full compatibility test for all you Christmas shoppers.

Compatibility

The new machine contains the Enhanced Chip Set, and so will suffer in its early months from a number of compatibility problems. Though Commodore made Workbench 2 ROM code available on disk some time ago, some software houses have so far failed to code their products with the new Amiga in mind.

It is still too early to tell exactly how many programs and games will not run on the A500 Plus, but a preliminary run through about two dozen games found a few which would not work, though on the bright side, Terminator 2 (the number one game at time of going to press) and DPaint 4 worked perfectly.

Look out for our full report next month.

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Damage limitation

Paul Overaa looks at the issues of hard drive security, backups and sensible management

From a purely physical viewpoint, adding a hard disk to your Amiga is easy. Since most suppliers will have already formatted – and possibly even partitioned – the hard disk, it is often a simple matter of plugging it into the expansion port on the side of your A500, or slotting it into your A2000.

Unfortunately, however, physical connection is not the end of the story. I'm very careful with my hard disk data – not because I've ever had a major catastrophe but because I've met people who have. Over the years I've learned from their mistakes and know that, as far as issues like hard disk backup are concerned, total pessimism is the only safe policy. For this reason I usually use a three generation backup approach, which means there are always two backup copies of all essential files.

Hard disks come in a variety of shapes and sizes. Most, however, are fixed in place – that is, they cannot be removed. The humble floppy, despite all its capacity or speed limitations, can always be placed under lock and key – and access can therefore be strictly controlled.

The trouble with fixed disks is that, because they reside permanently in the machine, they and their data are vulnerable to everything from casual, but unauthorised, peeping to more serious problems such as flood or fire damage, virus attack and even direct physical sabotage by disgruntled employees.

Nosy parkers

As far as the more common problem of casual browsing is concerned, encryption of sensitive files provides one easy answer to the problem. Even simple encryption schemes, based on exclusive-ORing, can prove surprisingly effective.

The same encryption scheme, or system passwording utilities, could also be used to prevent dangerous system commands or programs from being used even though, of necessity, such items might need to be kept permanently on the hard disk.

Floppies spin at relatively low speeds (300 rev/min) and, because it doesn't take too long for a spinning disk to reach its correct read/write speed, the motor on a normal floppy drive comes on just prior to the read/write operation. Hard disks rotate at much higher speeds (3600 rev/min) so it is not feasible to switch the motors on and off between disk operations.

The higher speed, plus the fact that the disk is continually rotating, means that hard disk machines can be more susceptible to physical damage. Additionally, mains transients and more serious power interruptions may occur as might any number of other mishaps.

> *Assume that whatever can go wrong will go wrong*

Steady power

A set of backups will cure the problem of single files being corrupted. The problems caused by mains transients and "brown outs" – reduced voltage – can be solved by surge protectors and line voltage regulators and these devices may even be built into the drive itself.

Many companies go one step further and opt for UPS (Uninterruptible Power Supplies) units which automatically switch to battery power if a mains failure occurs. Thus there is a chance to save files and shut the system down normally. The only disadvantage of this latter approach is the cost!

These days the possibility of normal hardware malfunction is not the only issue to be considered. Malicious computer viruses have the potential to cause serious system damage and, unfortunately, these types of programs are appearing with ever-increasing regularity.

The virus situation is bad enough with floppy drives. For hard disk users the prospect of being the recipient of a virus is a potential nightmare. The best policy is simply not to use, or let others use, unauthorised (unvetted) software, and never download and test public domain software with the hard disk connected!

Backup or pack up

The unwritten rule of data safety is simple: assume that whatever can go wrong will go wrong. In many cases this just means backing up files as frequently as they change and the implication here, which can save more than a little time in practice, is that if a file doesn't change from day to day, you do not need to back it up every day.

Which of your files do not change from day to day? Perhaps the customer mailing lists for your particular business are only updated once a month – in such cases you would only need to back up those files once a month.

Data files

Programs are another example of files which do not need to be routinely backed up. The hard disk copies will have come from their master release disks and hard disk copies are therefore easily regenerated if the need arises.

The main problem of course, as far as backup is concerned, is not programs or fairly static data files, it is the data files which change daily. As hard disk storage capacity has increased over the years, so the problems of file management have become more difficult.

A number of companies now offer utility programs which can not only simplify backup operations, but can provide menu-driven facilities for fast copying, compressing and archiving and even rearranging fragmented files to improve effective disk access times. Central Coast Software's Quarterback 4 is a fine example of such programs.

Little people boxes

If many users are using the same machine it is usually best to give each user their own personal workspace for putting things which they might otherwise have been tempted to throw into the root directory.

Within this space they can of course create their own directory structures but this philosophy should not be overdone because creating extended directory structures will slow down the file operations – after all, at the end of the day the operating system has to search directory structures in much the same way as a human would!

It is incidentally worth pointing out that for many business and other important uses, it is wise not to store all your backups at one location. You may have an excellent multiple-generation floppy-based or tape-streamed data backup scheme in operation, but if all your backups are kept in the same place then they will all be vulnerable to fire, theft and so on.

Backup of my hard disk book manuscript files, for instance, is based on an additional three generation floppy disk scheme, but as chapters are finished they are passed to the publisher who both keeps and prepares further copies which are then subsequently given to a third party for safekeeping.

A few hours spent planning for the worst is a small price to pay when you consider what could be lost if the worst happens and you have not made adequate preparations! AC

Book sense

Good, readable books on hard disks, backup, data security and so on are few and far between, but one good book I've seen is called *Using Your Hard Disk* by Robert Ainsbury.

It is published by QUE (ISBN 0-88022-583-1) and is aimed at PC rather than Amiga users but it does, nevertheless, contain quite a bit of material that is of general interest. It is not a particularly easy book to get hold of but I do know that DTBS Books (telephone 0706 524304) have copies in stock – because that is where I got mine from.

Another excellent, although disturbing, book on general security issues is Martin Smith's *Commonsense Computer Security* published by McGraw-Hill (ISBN 0-07-707162-X). The author has a military, rather than computing, background and his ideas makes a refreshing change. The points he makes will probably make you totally reappraise your approaches to a number of fundamental security issues.

As far as viruses are concerned there are quite a few general books available. Peter Denning's *Computers Under Attack*, published by Prentice Hall (ISBN 0-201-53067-8) is, as far as many general issues are concerned, one of the better ones.

The only Amiga-specific book I know of, though admittedly containing little information on hard disks, is called *Amiga Disk Drives Inside And Out*. It should be available from Computer Manuals Ltd, on 021-706 6000



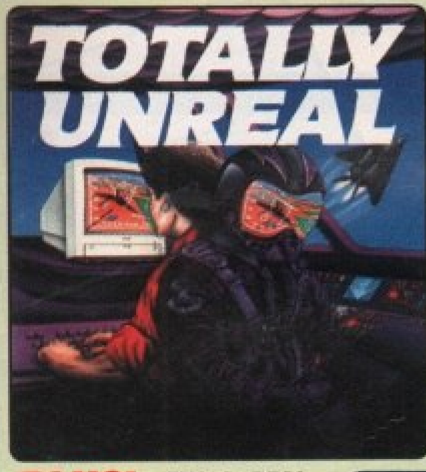
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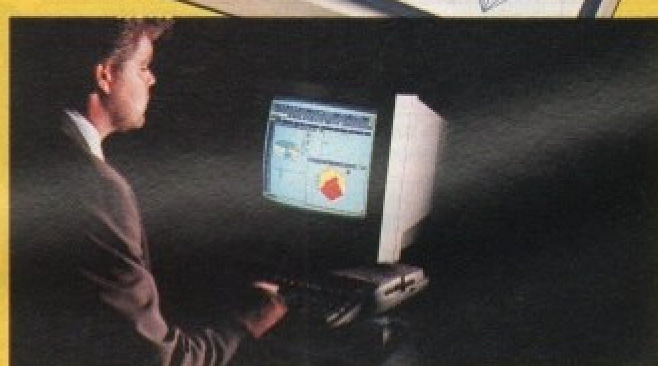
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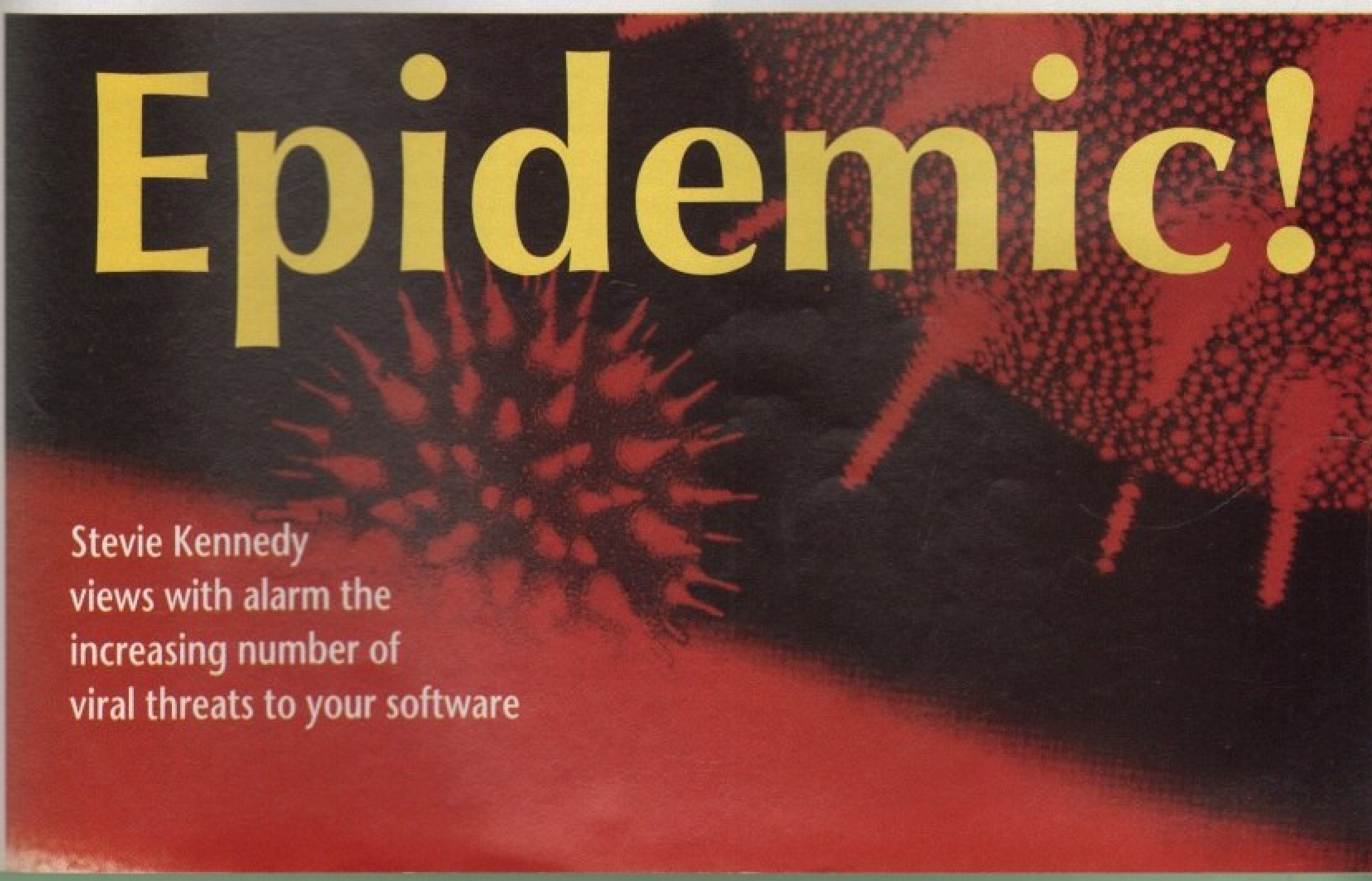
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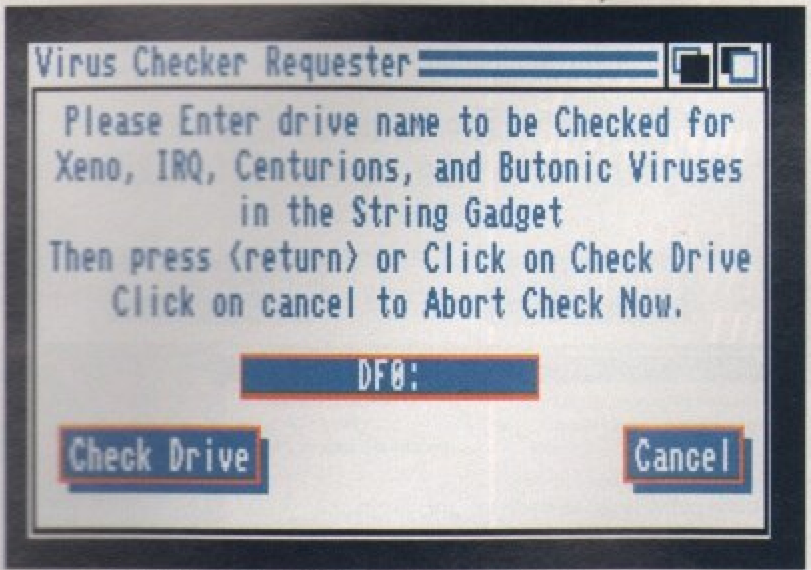


Epidemic!

Stevie Kennedy views with alarm the increasing number of viral threats to your software

They're everywhere! They're in your disks, in your machine, in memory – aaargh! Viruses have always been a danger on the Amiga, but developments since we last covered the topic in our March issue have doubled the risk to the average owner. In particular, the rapid proliferation of file and link viruses has left many machines open to infection without the owner being aware of it until it is too late.

Boot block viruses are an overstated danger. They are easy to spot with any virus checker you care to name, and just as easy to dispose of by simply installing a standard boot block on the infected disk or, in some cases, clearing all vectors to flush the beastie from memory. File viruses are an altogether more alarming prospect.



Virus Checker is the king of the file virus killers

Missing link?

A year ago, link viruses were few and far between, and Steve Tibbett's VirusX 4 was as good as any other checker, recognising the small handful of Amiga file viruses. Since then, VirusX has become obsolete and virus-killing authors are struggling to keep up with the latest threats.

The Xeno virus, which made its first appearance towards the end of 1990, was a foretaste of what was to come. Previously, many viruses had sought merely to replicate themselves and scroll the odd message across your screen which, though potentially trouser-filling, caused little permanent damage.

There have always been those which damage or destroy disks, such as Lamer and Gadaffi, but they were in the minority until recently. The new viruses, however, are more and more designed to cause chaos and irreparable floppy or hard drive heartache.

Xeno will infect every executable program on the target disk, given the chance, and will actually alter the programs so that they still run. As soon as a directory is listed or DIR-ed, every executable file in the directory will be infected, which means Xeno can spread like wildfire through a hard drive.

Second wave

No sooner had Xeno hit the scene than news arrived of file viruses such as Travelling Jack and Centurions, then the Saddam virus – the worst of the lot to date.

Like the Lamer Return file virus, Saddam hides himself on an infected disk as the disk-validator file in the L: directory. He then sneakily alters the bitmap so that unless Saddam is running, the disk will appear to be unvalidated.

This causes the disk-validator (a.k.a. Saddam) to be invoked, thus running the virus, which then alters a selection of data blocks so that AmigaDOS won't recognise them without Saddam. When the virus finally goes pop, so does your entire disk, wiped out with a cheery message to the effect that our Middle Eastern friend has done his job. The conditions under which Saddam will wipe a disk have not as yet been determined.



A few tell-tale words of Ascii text in memory, and Saddam's been spotted

Roman ruin

The Centurions virus is a little less destructive than Saddam. It will hide in memory until it spots a disk access then, if the disk is write-enabled, will copy itself onto the first command in the startup sequence – most commonly the SETPATCH command – adding 3,916 bytes to its size.

When activated, after copying itself ten times, Centurions changes the mouse pointer to a smily face with a scrolling message. In common with all other viruses which attack the startup sequence, Centurions will have no effect on commercial disks which don't use the AmigaDOS system, nor on data disks which have no startup sequence.

Jack the lad

Travelling Jack came onto the scene at about the same time as the Centurions virus, but seems to be more damaging. Initial reports are that it will copy itself to every file your machine reads until activated, at which point it is unclear what it will do. As a link virus, of course, it is automatically dangerous when it appends itself to files.

All infected files run the risk of being corrupted rather than simply altered ➤

and, if a virus links to a large number of files, it can mess up your disks in no uncertain fashion. In addition, files altered or corrupted by a link virus are difficult to repair, and there are only a few of the more intelligent virus killers which will attempt to remedy the damage.

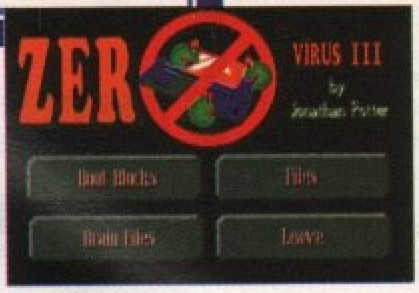
Protection methods

We've said it before, and we'll say it again – if you've any hope of staying virus free, you must apply your common sense, and an advanced virus checker. The only way viruses will ever become less of a threat is if the average Amiga owner takes the proper precautions.

Your first move should be to write-protect every disk to which you do not want to write data. This will include commercial games software, the program disks from wordprocessors and so on. Next, ensure that all of the disks you have permission to back up are kept safe in a disk box somewhere, and the copies used for all day-to-day tasks.



Once the best killer of all, VirusX has been left behind by newer viruses



Zerovirus is a good all-round killer, and graphically easy on the eye

With these simple precautions, you can proceed in the knowledge that even if your collection is infected, no monetary damage will result, and the most distress caused will be the hassle involved in removing the virus from all your disks. Always remember that every single new disk, no matter where it comes from, is a potential virus carrier, even those bought direct from PD libraries or magazines, some of whom have had problems with viruses on their coverdisks.

Most importantly of all, arm yourself with an up to date virus killer as soon as possible. Don't rely on the few commercial killers around and don't stick by VirusX. The former are hopelessly out of date, and the latter has been superceded by the recent wave of file viruses.

A very useful tool when faced with a program you think may be a virus is a hex editor/viewer such as the shareware program NewZap. Using one of these, you can scan the machine code contents of a file in search of any Ascii text, and can often find incriminating evidence of a program's intentions.

Many viruses are written by people whose chief desire is to be noticed, and they will usually contain Ascii text denoting the fact that you have a virus in your machine. The SCA boot block virus, for example, contains the Ascii text: "Something wonderful has happened – your Amiga is alive! And even better – some of your disks are infected with a virus!" This text is present in the boot block as simple Ascii, and can be spotted with ease.

File vetting

Decent virus killers will include an option to view boot block code, but there are none which will do the same with file viruses. Again, they will usually have no facility for viewing sections of memory thought to be infected with a virus, though they will usually indicate the memory address in question.

In conjunction with your hex viewer, then, it would be a good idea to find a memory monitor such as Eye, from the March CoverDisk. When the virus killer warns you of suspicious behaviour at a certain memory address, run your monitor, skip to the address, and have a snoop at the contents.

When Saddam first paid us a visit, KDVIII and ZeroVirus 3 prompted alerts and we found the words SADDAM VIRUS among a chunk of code at memory address $dbe1a8. It was only then that we realised that we had a new virus on our hands, and took the appropriate defensive measures.

The number of viruses on the Amiga is doubling each month

The use of hex editors and memory monitors in conjunction with virus killers in the detection of Saddam shows the usefulness of keeping a close eye on what your machine is doing, and of not ignoring *any* symptoms of infection.

Erik the Guru

Erik LØvendahl SØrensen has been running a virus bank and global anti-virus campaign since the first Amiga viruses reared their ugly file headers. Without his help, and the efforts of others like him, we would know a great deal less about viruses and their disposal.

Without the self-financed work of people like Erik – a.k.a. Speedy Gonzales – articles such as this could never be written and the *Amiga Computing* CoverDisk would stand little chance of remaining as completely free of viruses as it now is. We asked him for his opinion on the virus menace as it currently stands:

"It's getting a lot worse," he told us, "and the number of viruses on the Amiga is doubling every twelve months. At this rate there will be 10,000 different Amiga viruses by 1995!"

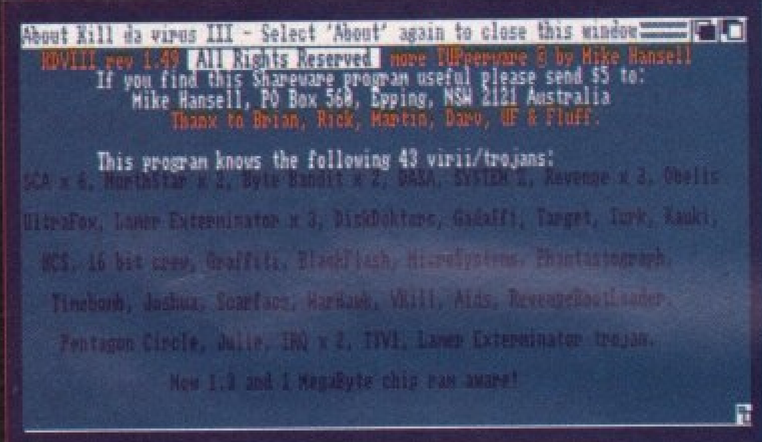
What can be done about the spread of viruses?

"I am working with representatives of the European Community, who consulted me on the virus question. There should be EC regulations concerning viruses pretty soon."

So writing viruses will be treated as a crime?

"Yes, most definitely. It is already a crime in some countries, but we hope to create European consistency on the way viruses are treated."

The sooner virus authors are made to realise that their activities are criminal and destructive, and that they will be punished when caught, the better. If you know anyone who's written or deliberately spread a virus with intent to cause damage, shop the so-and-so. There's a man at New Scotland Yard's computer crime unit waiting to hear from you.



KDVIII's memory check can alert you to new viruses

King killers

Just about the most useful all-round virus killer we could find was John Veldthuis's Virus Checker v5.26 which, by an amazing coincidence, was included on last month's coverdisk. It will detect all the file viruses mentioned in this article and a few more besides, and has been constantly upgraded to keep in line with as many new boot viruses as possible.

It is the only killer we know of which will detect and remove the Saddam virus, and comes with a new program, called FixSaddam, which will attempt to repair any data blocks altered by the virus. In use, it will multitask without complaint and checks all newly inserted floppies for both boot block and file viruses.

Another very useful checker, by virtue of its thirty second vector check, is Mike Hansel's KillDaVirusIII. A freebie on our March disk, this program recognises a relatively small number of viruses, but it has the indispensible ability to scan memory every thirty seconds, detect any vector shinnanegins, and alert the user to suspicious activity.

It was through KDV's vector check that we were first alerted to the Saddam virus, passed on to us innocently enough by a contributor who had contracted the virus from a PD library. When KDV went bananas, we made a thorough inspection of the disk and the memory address referred to by KDV's alert, and found the first signs of what we realised was an entirely new virus.

A vector alert will more often than not include an address in memory where it has detected the suspect program. If you have a memory monitor, you can examine the contents of memory at and around that address. In Saddam's case this will reveal a screen full of hex gobbledigook with the word SADDAM in Ascii text somewhere near the end.

When text such as this appears in your memory, you know you've got problems. A combination of KDV, or another constant memory checking program, and Virus Checker which, if you're reading this mag you should by now own, should be defence enough against the majority of viruses.

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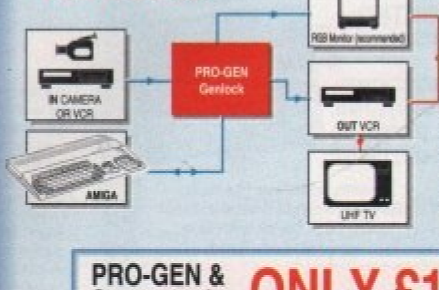
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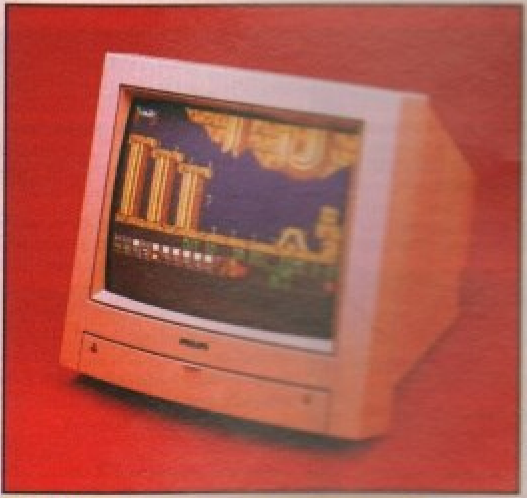
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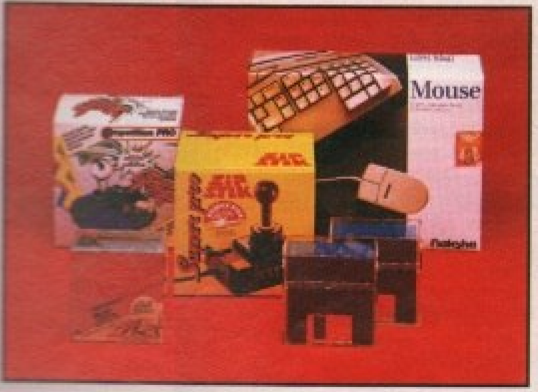
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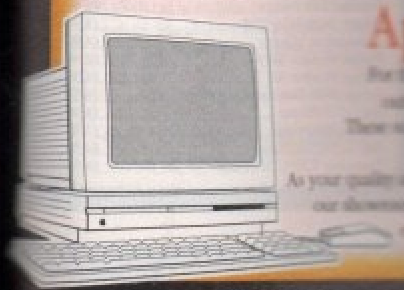
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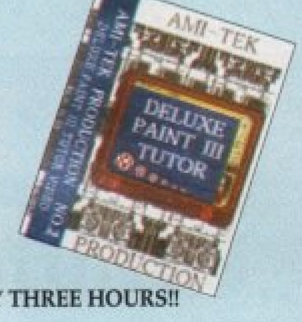
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After a short break the old PD purveyor returns with pockets fit to burst thanks to a mountain of sensational software. Read on as Paul Austin reveals all...

PUBLIC Sector

Well I'm back, after convalescing from a nasty PD mountaineering accident. This dreadful experience was caused by being buried alive under a landslide of scrolly demos.

I was forced to chew my own toenails to survive but before all hope was lost a rescue team of 13 year olds accidentally dug me out while searching for a rich seam of vector graphics and bouncy chrome balls.

I'm telling you it was touch and go for a while but thankfully I'm OK. Now it's all over we can get straight down to the serious side of the PD with a look at this month's extra special utility selection.

Dedicated utilities

Because the Amiga PD scene is becoming more polarised by the moment I feel an extra category in the utilities section is in order, and as a result this is it.

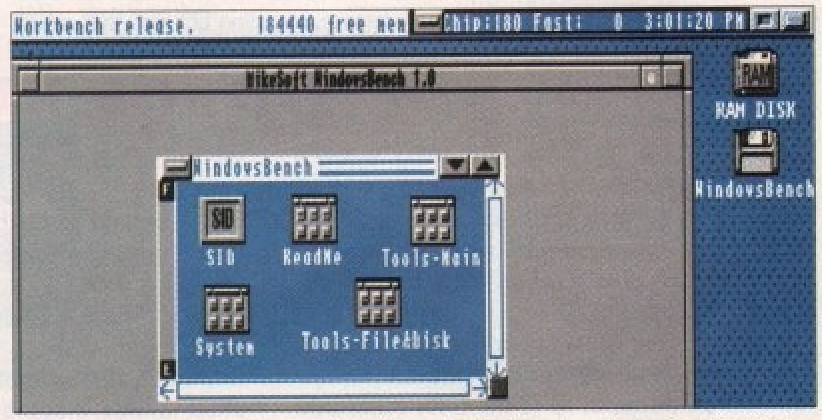
One of the themes presently in vogue is that of the "superdisk". These disks are designed to replace the workbench with either an all-new, all-glamour front end or alternatively with a mega-crunched utility-packed extravaganza.

Our very own WorkStation disk is a good example of the latter but if it's glamour you're after Mike Doodson's Windowsbench is perfect for all you Workbench 2 wanna-bes.

Windowsbench

Windowsbench as the name suggests is a combination of the original Workbench interface with a touch of the PC's Windows 3 and Commodore's Workbench 2 all mixed together.

Sound's great doesn't it? But before you fill in the cheque, remember it's only a look-alike and in fact the interface itself does no more than the original Workbench.



If you're looking for a bit of glamour and a touch or originality this all new front end could be ideal

True it is much more attractive, with patterned backdrops and Workbench 2 style icons but there's certainly nothing new in the pull downs, no group selection tool, and certainly no extra display modes, in fact none of the Workbench 2 extras 1.3 users would kill for. If you want Workbench with a face-lift it's ideal and to sweeten the pot a few WorkStation style goodies have been thrown in for good measure such as SID, Fixdisk, Iconmaster and so on.

It's obvious a lot of work has gone into the graphics with animated pointers and designer window gadgets, so the choice is yours, the power of the WorkStation or the pretty pictures of Windowsbench.

Both the program and documentation disks are available from N.B.S., Tel 0983 529594.

Spectrapaint

Good old Amos is responsible for many great things within the public domain but perhaps one of its best attributes is its ability to bestow excellent graphics to its creations. If it can produce software with excellent graphics, it's logical that the software itself should be able to do the same.

As a result there's a whole range of Dpaint clones, all created with Amos, and Spectrapaint is arguable the best of them. It's true that non of the clones match up to the original in all artistic departments but some and especially Spectrapaint do have the old master licked on occasions.

As a result the combination of Spectrapaint and Dpaint makes a powerful team that can swap and change images adding their own artistic flair to the creation as it's handed back and forth.



The perfect pattern for Dpaint and all yours for just a couple of pounds. Spectrapaint, yet another Amos masterpiece

Spectrapaint doesn't boast some of the subtleties of Dpaint but it does offer things like pattern fills and fan line effects, along with a few other handy options which make it Dpaint's perfect pattern. All images are saved in either hi- or lo-res with the usual array of available palette sizes – perfect for transferring between packages.

All the painting essentials are included and considering its power and price it puts many a commercial package to shame. The disk is available from Public Dominator, disk number pdom 500. Tel 0279 757692 between office hours.

PD for DTV

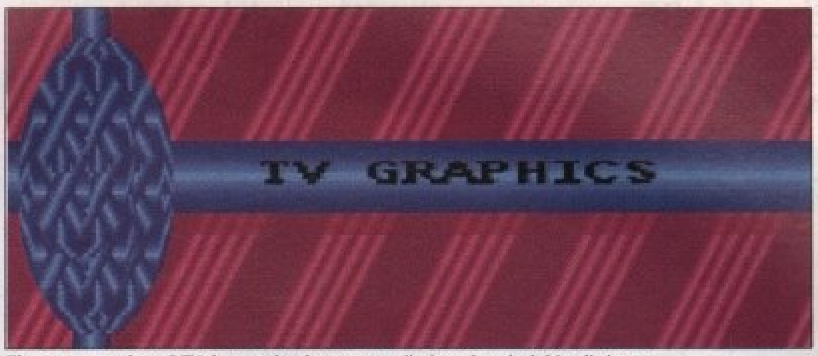
If you're one of the growing band of camcorder-crazy Amiga owners, you'll love the TV Graphics disk from A.B.P.D. This original concept in the PD world provides a whole range of high quality lo-res backdrops plus assorted shapes which are perfect for anyone employing a genlock.

The disk contains 20 separate images and for the pitiful price of $10 George Bailey will send you another 40 screens full of excellent graphics.

Clip art is nothing new to the Amiga but TV Graphics has a specific aim with most of the images either being icon style cut-outs or backdrops complete with black window areas ready to accept genlocked images. Another pos- ➤

sible use for high quality images has appeared via RaceTrace which you'll find elsewhere in this issue.

Thanks to RaceTrace, lo-res 2D can be swept into the third dimension in seconds so TV Graphics would be perfect for all manner of ray tracing applications. TV Graphics is available from A.B.P.D. on disk U218. Tel 0727 833363.



The answer to those DTV dreams thanks to a compilation of genlock friendly images

Utility mix

After the run-down of the designer disks it's time to search through the compilations for those little gems that will change your life, the universe, and everything, or at least solve that niggling problem that's been bugging you for months.

All the software mentioned in this section is only part of an entire disk full of extra goodies which there simply isn't enough space to mention. So you can usually expect a fistful of extras when you do invest in any of the software mentioned.

First on the list are two very handy utilities hidden away on Fred Fish disk 378. The first of the two is a useful device renamer, namely DevRen which works on any mounted device and could for example rename the external drive on a 2000 from df2: to df1:.

The second spotlight falls on MachIII which is a mouse accelerator with a difference, including hot-keys, sun mouse features, click to front, popcli, title bar and clock complete with its own BBS online charge accumulator. All that plus ARexx support. What more could a rodent need?

The next disk on the list has to be number 1183 from 17Bit which for a company usually associated with games and scrolly demos is excellent. Five impressive utilities and a card game are included but the star of the show has to be InputLock which is a dream come true for any Amiga-owning parents out there.

InputLock as the name suggests is a method of locking up the machine via a key combination which ignores all keystrokes and mouse commands. Ideal if a possessed toddler tries to interfere with the love of your life.

Public Dominator could have the answer to perhaps the most popular of Amiga problems, namely printing. Printstudio is an intuition based general purpose print utility that can print text with a variety of options.

Several graphic formats are supported plus an option to print whole or part of a picture. Full screens and windows can also be captured and saved as IFF files if required, Palettes can be adjusted and the usual array of printing parameters defined.

The disk is available from Public Dominator or any of the larger libraries which stock the Fred Fish collection. Disk number FF 402.

Amiga in business

Considering that the storage and sorting of data is perhaps the primary use for a computer, the Amiga is sadly lacking in cheap databases and credit control programs. In the commercial market you have the choice of a few programs such as Prodata and personal finance manager but both of these will cost.

Fortunately for the PD community Keith Grant has come to the rescue with two truly excellent packages that more than match up to the costly commercial alternatives.

The first of the two is AmiBase which is far from new but has recently undergone an excellent revision. Version 3.76 is the latest in the line and is by any standard a classic piece of PD. The old version took the form of a huge lump of code which sat in memory gobbling up valuable space and seriously restricting storage capacity.

This all new update is completely recoded and as a result all the necessary data manipulation is done via modules which load up on demand complete with their own interface, which asks simple questions and produces powerful results, such as sorting, amending, renaming in fact anything and everything you'd expect or need.

The interface is on a par with anything on the Amiga and makes the drudgery of database management a pleasure, well almost. All the usual options are available, plus a whole range of power features which even some commercial packages can't contend with.

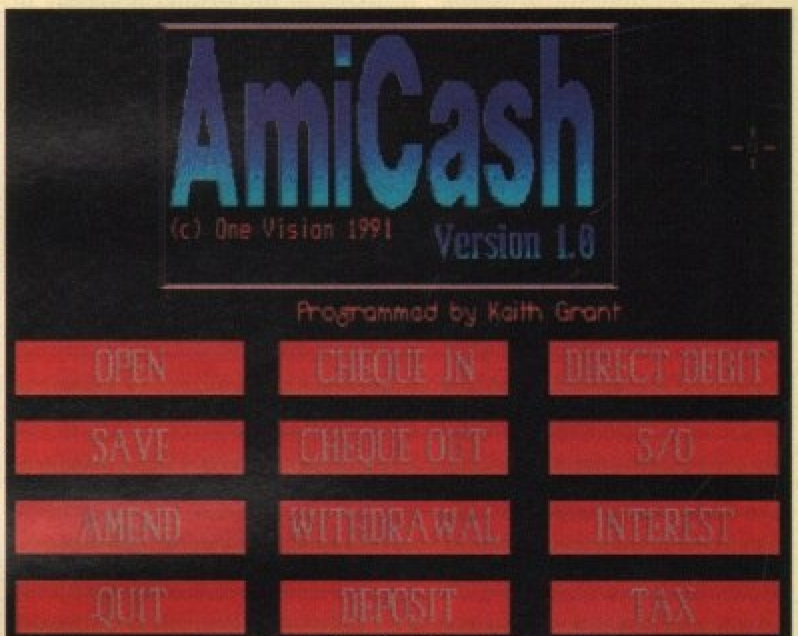
All the records are held in memory so there's no waiting around as files are loaded and saved. All in all it's a masterpiece and if you want a database this is the one to buy or attempt to beat.



The simple front end of perhaps the most powerful database in PD

The second of Keith's creations is the equally impressive AmiCash. Now we all know that balancing the budget is about as interesting as reading the other Amiga mags but Uncle Keith even manages to breath a little life into this painfully dull subject.

AmiCash started life as a method of keeping Keith's fluctuating finances under control and from those humble beginnings AmiCash has become a complete cash control system which automatically tallies up all your incomings and outgoings whilst detailing the individual transactions by both date, amount and description.



The stylish look of Keith Grant's excellent personal finance manager AmiCash

Once the initial figure and date is entered new transactions are added by simply clicking on the appropriate icon in the main menu. This automatically assigns the correct description to the transaction. All that's needed is the date and amount and it's all over.

After each addition the running total is calculated and the entire list of up to 300 records can be displayed and scrolled through as and when required. A whole list of entry types are available and any extra notes can be inserted thanks to the Amend option.

Just like AmiBase, the interface is bliss to use and the pleasant graphics go a long way to easing the agony of a dwindling balance. My only complaint is the lack of predefined debits and credits which would activate a predefined transaction on the appropriate date.

With this addition the mortgage could be deducted automatically and the wages added on pay-day. Even without this option AmiCash is still an excellent utility and perhaps I'm asking just a little to much considering the ridiculously low cost of the software.

While we're on the subject of finances please, please, please make your donation to Keith and in fact any of the authors who've create your favourite PD and Shareware.

Keith and people like him are the soul of the PD and in the case of AmiBase and AmiCash you'll probably recover your donation in a couple of months anyway, all thanks to the hundreds of unpaid hours Keith spent creating and perfecting his software.

Both AmiBase 3.75 and AmiCash are available from Amiganuts United on 0703 785680

The games that PD play

Virus Free PD are well established in what is best described as "adult entertainment". Fortunately the boys at VF have taken to playing games as well, which is quite an achievement considering their failing eyesight.

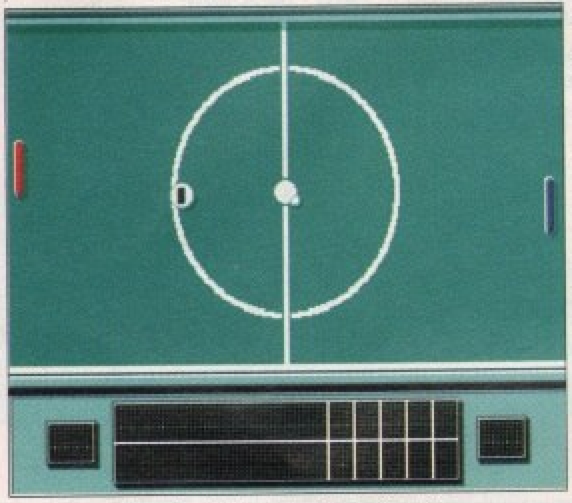
Luckily enough this latest hobby is proving not only to be a cure for premature hair loss but a sound business venture, thanks to a formidable stable of software which is sure to be making even the gameplay giants like 17 Bit sit up and take notice.

Battle Pong

The first on the list has to be Battle Pong which, if you still hold a place in your heart for an ancient Atari console, will come as manna from heaven. Like almost everything it's a revamp of an old classic, in fact the oldest of them all.

Pong is the grandfather of all arcade games but the original structure of two bats and a ball are all that link this particular version to its elderly predecessor. This new version has all the necessary whistles and bells of a modern Amiga classic and would go unnoticed as PD amongst any selection of commercial software.

The basic aim of the game is identical to the original, namely to leave your opponent stranded and screaming as the ball disappears out of his or her end of the court. To add a little spice to the challenge all manner of special features appear sporadically which produce the usual array of Breakout-style sticky bats, speedy balls and mobile barriers.

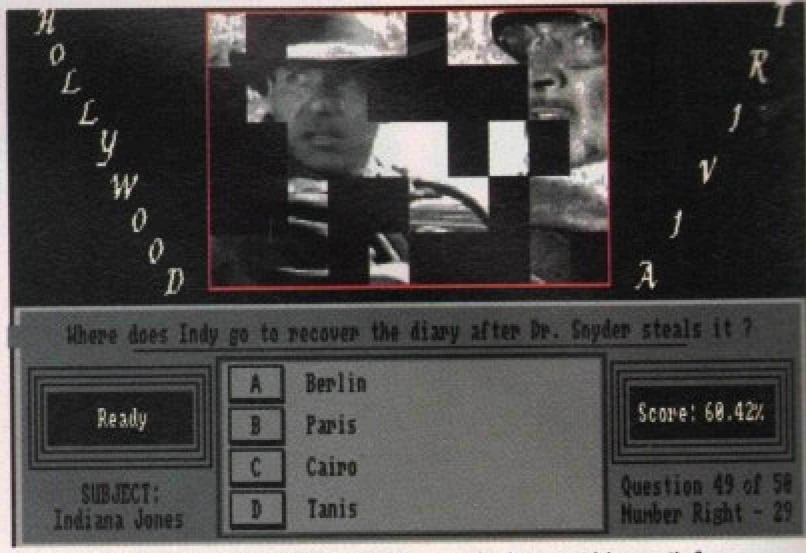


Battle Pong doing a fine job of reviving the classics with all the latest whistles and bells the Amiga can offer

The scoring system is based on tennis with games divided into numerous sets all of which can be played in either one or two player mode. As a two player it's hilarious but on your own it's just a tedious as the original.

All in all it's very impressive with commercial quality graphics and coding all adding to the excitement. If you're looking for a high quality, cheap two player, then it's a must.

Disk number 1778.



Can you complete the picture in eight different categories using just your trivia expertise?

Hollywood trivia

With the explosion of Trivia games, no pub is without its own team and any self respecting coffee-table always has a huddle of irate pseudo-intellectuals arguing over the cost of Durex in the mid sixties. After all, the outcome of such heated argument could mean an extra cheese and let's face it what's a little bloodshed between friends?

After this particular virus had infected the coffee-tables of the UK it wasn't long before the computers fell to the trivia disease. Endless board game conversions appeared and now the infection has reached the PD, with Hollywood trivia is a prime example.

As the name suggests the subject matter is of straight from the Barry Norman school of useless information. There's a choice of categories varying from Star Trek old and new, M*A*S*H, Star Wars, Television, Music, Indiana Jones and the Hitchhiker's guide to the Galaxy.

Each of the above have a list of fifty questions which when answered correctly reveal a mystery celebrity, thanks to a shrunken mono screen shot which is revealed bit by bit as the questions are answered.

If you're a complete wimp you can ask for a hint and if that still leaves you stumped you can sell out completely and ask for the answer.

The game uses the usual multiple-choice format with a selection of four possible answers for each category. The only real problem is the lack of available questions which appear to be limited to fifty.

This makes life just a predictable when you've played each category more than once, as you're asked the same selection over and over again.

All in all Hollywood trivia is a good buy and becomes even more attractive thanks to the inclusion of some excellent games such as Connex which as the name suggests is a Connect Four variant.

The next extra, namely Klondike, is possibly the most popular game ever to be given away on our CoverDisk (Incidentally we also gave away Connex, so check your disk box before you invest).

The last of the fab four is another coffee-table classic, namely Yatz which has had more spellings than Mississippi but nevertheless still remains a must for board game fanatics.

Considering all the added extras on ➤

Phase II

Yes folks, this month it's the attack of the golden oldies and yet another member of the Arcade Pensioners' Association has hobbled in under the guise of Phase II.

The author probably won't take to kindly to this particular description but whether intended or not he has created yet another scramble clone with the odd bit of R-Type thrown in for good measure.

Even though Phase II is less than original it's still a strong contender for the PD Game of the Month with the familiar scramble horizontal scrolling and R-Types weaponry blasting from every orifice. Extra weaponry is amassed by the collection various power-ups which do their best to fill you full of holes before handing over the goods.

Like many cheap and cheerful games, Phase II is falling into the all too familiar trap of licence-ware agreements. In this particular case VF are marketing Phase as 'exclusive-ware' which in real terms translates to three quid or forget it.

The actual legal connotations of exclusive-ware remain a mystery but I'd say that Phase II should be treated as a kind of licence-ware so distribution should be left to VF if you enjoy your freedom.

On the gameplay side, Phase II is impressive with three levels of increasingly tricky parallax scrolling and hoards of baddies launching their armoury from all manner of enemy ships and ground based guns, some of which wave their turrets threateningly as random shots rain into the already crowded skies. Other features included death-dealing bubbles which expand when shot at and can soon engulf your tiny craft.

On the downside Phase II isn't the slickest game in the graphic department and the pedestrian speed can be a bit frustrating, but nevertheless the game is easily worth the asking price.



Another blast from the past with Phase II. A combination of two of the Amiga's most memorable blast-'em-ups

Phase II, Exclusive-ware by Kevin Kendall.

All of the aforementioned software is available from Virus Free PD tel 0793 512321.

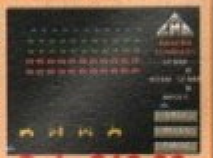


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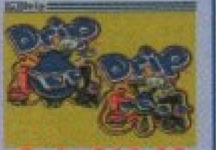
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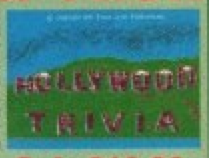
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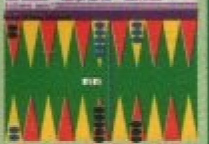
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- **PSL3** Q-Boid shoot blocks at the various random shapes decending on you. A Tetris variant. £3.00.
- **PSL4** Computer Conflict excellent speech and graphics in this all action arcade game. Requires 1MB RAM. £3.00.
- **PSL5** Subculture by Kevin Kendall a mega shoot 'em up. £3.00.
- **PSL7** Dizzy Lizzy an excellent game across between Pacman and Boulderdash. £3.00.
- **DV5** Jungle Bungle adventure in the jungle mainly for children with excellent graphics, speech and animation. Requires 1MB RAM. £3.50.
- **DV6** Pukado avoid the baddies and skull as you try to empty the screen of tiles. £3.50.
- **DV7** 4 Way Lynx a 22 level puzzle game where the object is to connect a specified number of tiles to the main centre tile. Requires 1MB RAM. £3.50.
- **DV11** Go Getter an excellent board game that will keep you occupied for hours! Guess whether your on your path the number on the next step is higher or lower than the one you are on, watch out for teleports and and bonus points. Requires 1MB RAM. £3.50.
- **DV16** Reversi II based on the board game Othello, Requires 1MB RAM. £3.50.
- **DV17** Dog Fight!! upto 8 players can play this brilliant aerial shot 'em up. Requires 1MB RAM. £3.50.
- **DV19** X IT 50. A split screen shoot 'em up. £3.50.
- **DV21** Quingo an excellent quiz game where you answer questions and play bingo. Requires 1MB RAM. £3.50.
- **AMU13** Bull Run an American civil war simulator.
- **AMU14** Battle Mech a strategy war game between robots.
- **FAUG32** PacMan 87.
- **FF194** Moria the single player dungeon adventure game. Requires 1MB RAM.
- **FF336** Car a brilliant racing game.
- **PD90** Tennis! and excellent implementation of the sport. Requires 1MB RAM.
- **PD79/80/81** Star Trek by Twisted Images. Full graphics and sounds from the original Star Trek. Requires 1MB RAM and External disk drive. £9.00.
- **PD215/216** Star Trek by Agatron. Full graphics and sounds and animation from the new generation Star Trek. £6.00.
- **PD233** Holy Grail adventure that requires 1MB RAM.
- **PD234** The Golden Fleece adventure.
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PROGRAMS

PD499 - AmiBase V3.76 the database.
FF365 - Badger a reminder program that displays any important events that are 'due', but not bother you if there is nothing to report.
FF372 - Magnetic Pages V1.0 allows you to create a disk-based magazine. You can combine text and graphics on a single page, branch to different sections and play music.
FF385 - MortCalc V2.5 an accurate loan calculator.
FF387 - NTSC-PAL for Amigas with the ECS 1Mb Agnus installed the ability to boot into either a NTSC or PAL environment.
FF452 - Budget V1.302 help with managing personal finances.
FF425 - A-Gene V3.1 an excellent genealogy database program. Limited to 600 persons/300 marriages. requires 1MB RAM
FF536 - Chemesthetics V2.06 draws molecules using the calotte model. Very comprehensive it includes a picture save option.
FF429 - Scrub will detect if a drive has a disk cleaner in it then spin for 30 seconds while moving the heads around.
FF432 - Reader V1.0 will scan the supplied 24,000 updatable word list to locate which words can be made from the letters given, ie. m,t,h for the word MATCH. Very comprehensive.
FF434 - Typing Tutor a simple typing tutor program which measures your typing speed and adjusts the level of difficulty.
AMP1 - Home Business Pack : UEdit the excellent wordprocessor and spell checker, Visicalc the spreadsheet, RIM and JBase two brilliant databases only £8.50!
PD416 - NComm V1.9, ALL you need for the phone line.
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AMP4 - Starter Utility Pack: This pack was compiled with the new Amiga user in minD. The pack includes: File compressors used on the Amiga - ARC, LHARC, Zoo and Power Packer. DirWork the friendly enviroment that allows many of the CLI commands to be executed at the click of your mouse. Also a virus checker and destroyer, an icon editor, a sector editor, a communications program for modem users and lots more, PLUS the word processor UEdit and the Database JBase! Only £8.50!
FF366 - PrintStudio V1.2 this program allows you to print any text file in many styles, print any part of or a whole picture, screen or window, also control your printer and much more.
TB6 - BioRhythms the life cycles program.
TB9 - FastMem allows you to toggle ON/OFF your expansion RAM. Also FuncLey allows you to assign text or commands to F1 to F10.
TB16 - CLI Wizard V1.2 is the excellent mouse operated CLI replacement makes using the CLI a doddle!
TB17 - Database Wizard V1.1 to store 400 names and addresses.
TB30 - MyMenu create you own menu on Work Bench allows you to have all your favourite programs at the click of your mouse. Also Icon Meister the excellent Icon editor.
FF342 - IE the icon editor create icons upto 640 x 200 pixels!
PD279 - ESA Utility Disk 1. This disk contains 3 dozen excellent utilities! All menu driven it includes: Amiga Tool, BootGenerator, Coder Board, DCopyII, Font Ripper, Menu Maker, Power Utility, Power Packer, PPMore V1.2, Save IFF, Scanner V2.0, Scroll Maker 2, virus checkers and destroyers and more!
PD280 - The Champions Total Utils 1: This compilation contains Boot Generator, Boot Girl, BootMaker, BootWriter, Character Editor, Demo Maker, DiskX, Flash Ripper, Font Ripper, Guru Maker, Guru Master, Icon Master, Make A Menu, NoiseTracker, Graphics Searcher, SetKey, SlideSHow Maker, Time Set, Tristar Virus .
FF378 - MACH II V3.0 this brilliant 'all in one' utility features your help screen, mouse accelerator, PopCLI, Screen Blanker, Mouse OFF, Sun Mouse (activates a window by placing mouse it), Click To Front (bring window to front by clicking on it), Cycle (move a window or screen to back with left then right mouse button click, Window and Screen Shuffler, CLock, Alarm, Beeper and more.
PD300 - The Master Virus Killer the latest version is always in stock this utility recognises 124 viri!! A full list is available, excellent and very easy to use and very comprehensive.
PD62 - The Public Dominator Anti Virus disk contains Virus X V4.01, VCheck V1.2 (for memory), VCheck V1.9 (for disk drives), Zero Virus V1.3 the fully integrated virus detector and killer. Also Boot Block Champion the utility and info on boot blocks.
TB31 - ShoWiz show any picture with or with out your own controlling script, show 1 picture, or even 1 or more disk fulls, also play a music file and show in text in any colour! Perfect for presentations.
PD93 - ARP V1.3 the Amiga DOS Replacement Project.
FF228 - JazzBench v0.8 is a multitasking WorkBench replacement.
FF246 - NoClick V3.6 this program stops your disk drives clicking when there is no disk in the drive.
FF251 - DiskSalv V1.42 more powerful than Disk Doctor this utility will attempt to salvage data from bad disks.
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FF279 - MRBackup V3.3 the hard disk backup utility.
FF300 - TitleGen V1.6 excellent 'script language' that creates scrolling text in any font and colour upto 500 lines long! Perfect for video titles.
FF213 - ICONS! This disk contains 300 8 colour icons!
AM022 - Printer Driver Generator create a driver for your printer.
APDC18 - Floppy Disk Utilities: QuickCopy, Disk Mapper, Disk Salvage, Viurus Check, Directory Master, Amiga Monitor, Calculator and more.
FF533 - BootGen V3.4 creates a boot menu. When you boot your menu will appear choose 1 of 10 programs.
FF531 - DisDF V1.0 disable DF0-DF3 to stop that empty drive clicking.
FF529 - TownMaze V1.2 design a town-shaped maze like "Bard's Tale".
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FINANCE

AMP7 - Personal Finance Pack: This pack contains 11 programs that will handle just about every aspect of your personal finances: Bank & BS accounts, Loans & Mortgages. This special money saving pack is only £8.50!

LANGUAGES

PD211 - North C V1.3 C compiler that features compiler, liner, assember, examples and tools.
FF456/457 - C Manual V2.0 is a complete C book for programming the Amiga includes 100 examples with source code £6.00
FF347 - Cursor the Amiga Basic compiler.
FD60 - Modula II compiler
FF314 - A68k V2.61 68000 assembler.
FF470 - Fortran.
FF519/520 - Oak Lisp 6.00.
FF503 - PCQ V1.2a Pascal compiler.
FF528 - SimSmart print program source code of any language, so that keywords are emboldened and underlined, and the comments are italicized, adjustable.

GRAPHICS

DV35 – T-Tec Draw allows you to produce high quality technical drawings with printer option. 1Mb. £3.50.
DV36 – FracGen II a fractal generator. £3.50.
DV40 – Sprite bank Ed. For use with AMOS allows manipulation of sprite banks. £3.50.
DV42 – X-STitch will print IFF pictures in a cross stitch pattern for embroidery. £3.50
PD502 – C-Light ray tracing.
AMP3 – Graphic Pack 1: Mcad, ROT 3D, VDraw, Raytracer, Clipit1, FilterPix, Screen and window to disk savers, icon editors and more £8.50.
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DV37 - Rocket Maths 4 Part Maths Game: Takeoff, Star Map, Rock Storm and Landing. Choose Easy, Medium and Hard with Times Table, Take Away, Add Up and Divide. By author of DV10. £3.50. 1Mb.
DV1 - Colouring Book a colouring book for young children. £3.50.
DV2 - Arc Angel Maths a good math program that includes graphics to aid learning. £3.50.
DV4 - Thinga Majig is a puzzle program with 24 built in puzzles to choose from. £3.50.
DV8 - Work and Play (requires 1MB RAM) 3 excellent programs Funtimes Table, Let's Go Shopping for maths and Click Clock teaches a child to tell the time. £3.50.
DV10 - Word Factory which is a games type enviroment that teaches spelling. £3.50.
AMP5 - Over 8's pack: 2 excellent map drawing programs of any location on earth, Evo follows the evolution of life, Chemistry Element Periodic Table includes with details and graphics of all elements, Unit Conversion is a program that allows you to choose all types of unit i.e length, time, weight, speed etc and then do conversions and comparisons between them, plus more! German Language Tutor, Speak and spell tutor, Study Aid Cards, Hermes Formula, Cloud, the weather, GEO Time, Gravity Simulator, FUNC2D, Gravity Well, Air Foil, Wave Maker and others. Excellent pack only £12.50!
PSL8 - FUN TIME 1 a great educational offering aimed at children age 3 to 6. This disk is crammed with delightful tuition on many subjects: shapes, keyboard, clock and picture. £3.00
PSL9 - FUN TIME 2 a great educational offering aimed at children age 3 to 6. This disk is crammed with delightful tuition on many subjects: money,

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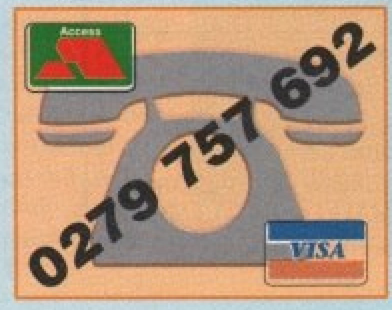
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FFISH 413 - Swiss Army, Stealthy Manoeuvre II, Juggette. 1Mb.
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FFISH 417 - Coyote 2: The Road Test.
FFISH 418 - Amy the Squirrel 1 Mb.
FFISH 423 - Pogo talking to Mom'a'selle 1Mb.
FFISH 450 - AmyVsWalker 1Mb.
FFISH 490 - ANTI LEMMING 2Mb.
FFISH 504 - SHUTTLE COCK 1Mb.
FFISH 505 - THE DATING GAME 3Mb.
PD620/621/639/440 - Red Sector DEMO MAKER includes fonts, bobs and screens etc. 1Mb. £10.00
PD455 - Anarchy System Violation.
PD457 - Equamania II.
PD473 - Digital Noise2: House Music.
PD1 - Walker I.
PD2 - Walker II.
PD65/66 - Red Sector Mega Demo 1 £6.00.
PD73 - Star Trek The Enterprise Leaves Dock.
PD74 - Star Trek The Starship Enterprise.
PD76 - Star Trek Shuttle Landing on the SS Enterprise.
PD83 - Space Ace excellent animation with sampled sound!
PD84/85 - RAF Mega Demo1.
PD88 - Ghostbusters/Hungry Horse animations. 1Mb.

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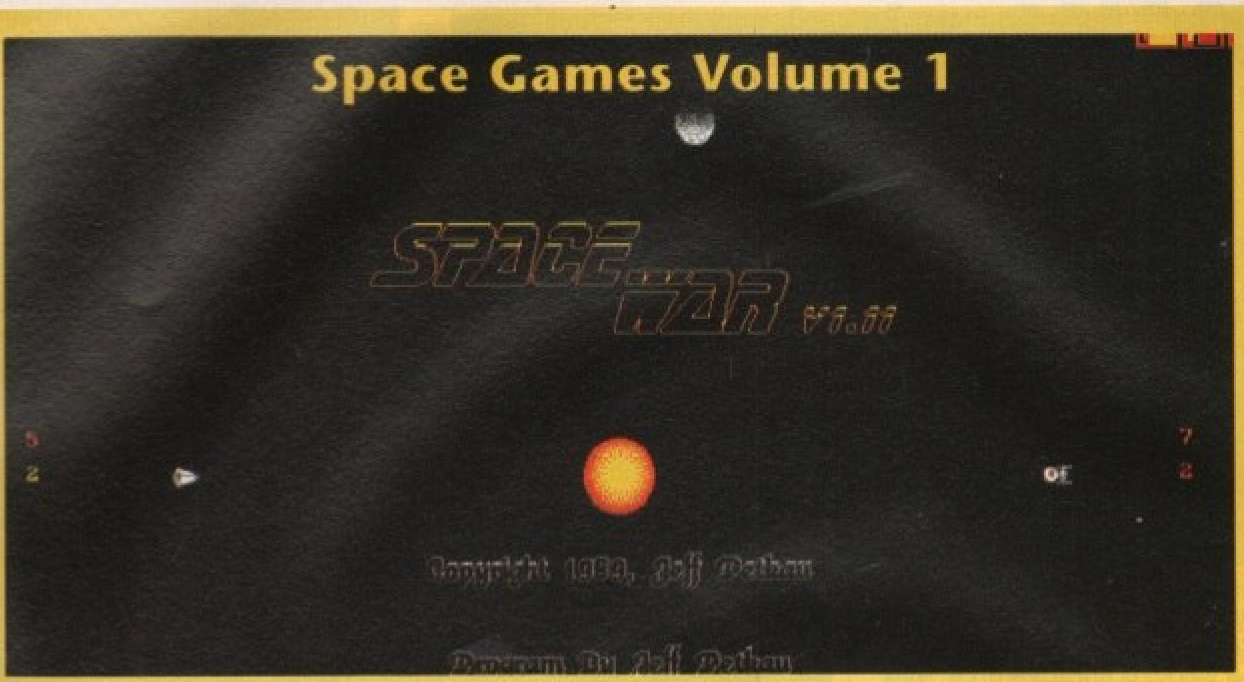
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The final game players' essential in this month's column has to be A.B.P.D.'s Space Games Volume 1, which as you've probably guessed is a compilation of eight classic PD arcade games all with a galactic flavour.

None of the games are particularly new but all are nevertheless the cream that the Amiga has to offer. All eight games are crammed on to one disk along with an excellent point and click selection screen.

The games include Gravity Wars, Amoeba Invaders, Asteroids, Missile Command, SpaceWars, Trektrivia, Star Fleet and Girl Actions which in case you're wondering is a "Galaxians" clone. The disk is available from A.B.P.D. disk number G069: Tel 0727 833363.



Just one of the eight galactic classics waiting for you on A.B.P.D.'s Space Games Volume 1

top of Hollywood Trivia, 17 Bit's disk number 1290 has to be this month's PD game players' essential purchase. To get yours contact 17 Bit Software on 0924 366982.

A classic creation

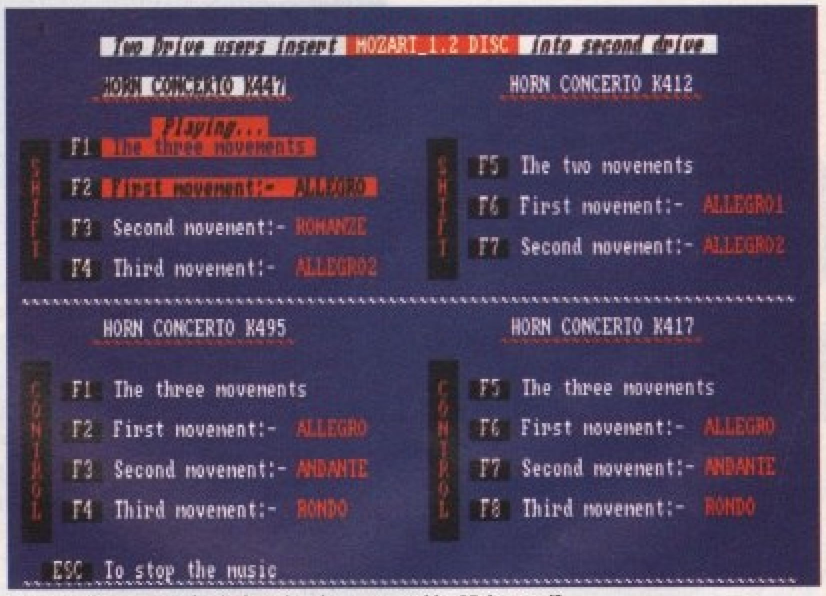
If to you the phrase "modern pop culture" is a contradiction in terms, the next musical masterpiece might be just what you're looking for.

To commemorate 1991 being the bicentenary of the death of Wolfgang Amedeus Mozart, High Gammon has produced a double disk collection of Mozart's four horn concertos which contain all the movements for each piece, which can be played either as individual movements or as a whole.

Because such a mammoth task couldn't easily be achieved using the usual sound sample method, all the instruments are produced using the much more memory efficient synthesis method. This does mean a sacrifice in sound quality but benefits from a huge increase in potential sounds.

If you're a fan of the classics and are willing to sacrifice a little fidelity for musical quality, Hugh's creations will come as a breath of fresh air in the smoky atmosphere of Amiga dance music. Anyone who appreciates accuracy and a loving attention to the works of a master will love the commendable efforts of Mr Gammon.

The disks are available from 17 Bit on 0924 366982, numbers 1297 and 1298.



From classic games to classical music, what more could a PD fan need?

Demo corner

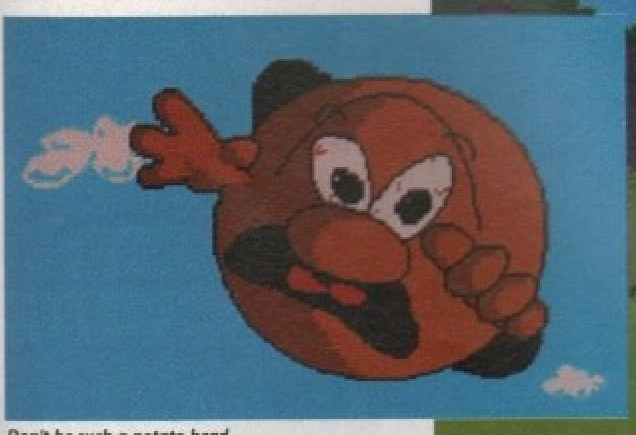
First up this month is a mixture of graphics and some quite strange music, called *Bruno's Box 3*. The demo begins with a superb animation of Dr Snuggles (remember him?) along with the theme music to that great cartoon.

The second part of the demo consists of a clock, whose hands can be controlled by moving the joystick. By doing so you can access a whole plethora of brilliant tunes and even a "heavy breather" tune (less said about that one the better!). The demo comes on two disks and is worth every penny just for the theme music.

The next demo is an animation of a certain Mr Potato Head, who just so happens to have a head shaped like a potato (well blows me down, Olive!). The animation is very well done and even has a nice funky tune to go with it.

After searching through millions or vectors and scrolly messages I found a truly original demo, ED-209 The Revenge. Not just an ego trip for the author but an interactive psycho blast-'em-up in the true spirit of Robocop.

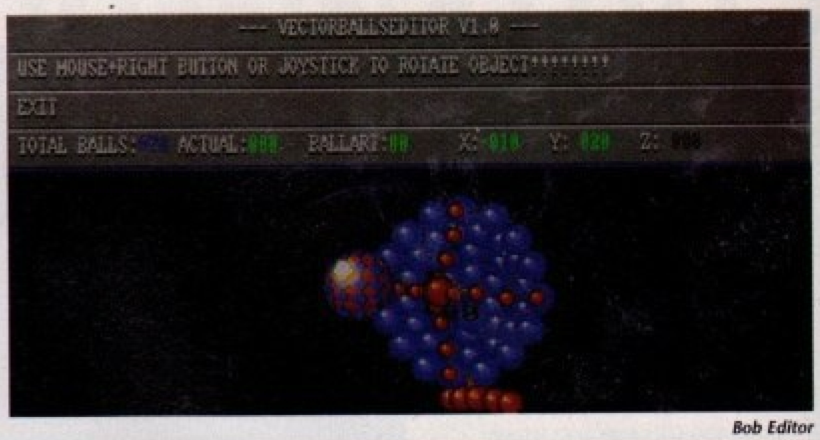
The demo starts with a thumping beat to get your toes a-tapping and then lo and behold ED-209 appears – not an ordinary ED-209 but an ED-209 with an attitude – a very bad attitude. You promptly grab your joystick to set the demo in


Don't be such a potato head


Bounce along with Dr Snuggles



Mint condition caption



Bob Editor



Font Editor



Vector Editor

motion. You move ED slowly across the screen left to right, whilst reading the rear wall full of graffiti greets. OK, nothing special about that you might think, but wait until a Teenage Mutant Ninja Turtle appears and you let rip with the Fire button decimating the turtle into tiny bloodstained bits.

Add another three Turtles, Batman, a robot and one of those annoying battery operated yapping dogs and you're well on your way into a laughter-filled psychotic spectacular.

After you pass the Turtles and Batman you get to a shady looking character who asks you for a password which is hidden in the graffiti that you've passed on the way. Get it wrong and you're in trouble, as the shady dude pulls out a huge weapon and blasts you and Eddie back to the beginning. A sicky's essential and it comes with a whole host of extra demos, too.

We certainly noticed the next graphic kind of demo – it's graphic in more ways than one!. It is called *Mint Condition* and is rather risqué, containing various cartoony animations. In fact some of them are quite un-risqué, like one which looks identical to Kick Off (which is very funny indeed) and some other childlike jokes transformed into animations.

But then you get to the digitised pictures of the infamous Roy "Chubby" Brown with some of his blue jokes dotted around the screen, and several more equally dubious demos. If you are broad-minded then this is certainly for you – we had a good chuckle at it in the office – but definitely not one to show to granny or the kids. The last disks this month are companions to the Red Sector demo-maker. There are three in all – the RSI Font Editor, the RSI Bob Editor and the RSI Vector Editor. These are ideal disks to add to your demo-maker collection.

If you are a bit of a wiz at using the demo-maker, why not send your disks to us at *Amiga Computing*? Who knows, maybe we'll even send out a couple of prizes to the best. That's all for this month demo fans – I'll see you when I see you.

Jonathan Maddock

Disk information

	Disk No.
Bruno's Box 3	1376 & 1377
Mr Potato Head Animation	1312
Mint Condition	1267 & 1268
RSI Font Editor	1390
RSI Bob Editor	1391
RSI Vector Editor	1392

All the above are from 17 Bit Software on 0924 366982.

ED209 & other demos ....N.B.S. D-702. You can contact N.B.S. on 0983 529594/821983.

Notes, lines and spaces

The first of this month's music disks features a brilliant remix of the Shamen's *Move any Mountain* by Zeff of top pop combo Four Small Custards(!). The music is very well put together and I wouldn't be surprised if Zeff used the samples that the Shamen provided with their latest album.

Whilst we are on the subject of hardcore techno music disks, another couple have fallen into my lap this month. The first disk is aptly name *Hardcore Techno Disk 3* and features three great remixes – *Charly* by Prodigy, *T99* by Anasthasia and *Cubic 22* by Night in Motion.

The disk has a fairly good intro – it looks as though it was done on the Red Sector demo-maker, but nevertheless it is still fairly good.

The second disk is called *Techno Attack 1* by Zee which also features Charly and also contains another two ravetastic tunes – *E for Everybody* (poptastic) and *Prone 1* (double poptastic). The disk loads up and transforms your workbench colours into a dazzling array of bright greens and pinks – very tasteful, I don't think.

If you can get over the shock of the colours then this disk is well worth adding to your collection. It is not PD but licenceware and costs £1.50, so that means you can buy it, but you can't copy it.

Stop the presses, these next disks are as new as new can be. The first is yet another Shamen *Move any Mountain* remix, which comes on two disks and needs two drives. Although the tune is not as long as the remix mentioned above, it contains some very high quality samples (could it be that they have also taken them from the album?). The second demo is definitely the better of the two, but if you are a big Shamen fan, get them both.

However, this month's Top Tune goes without a doubt to Tony Horgan with his superb rendition of the Utah Saint's dance classic "What Can You Do for Me?". The tune was done on MED and contains some funktastic samples including the "do da da" sample which the Saints borrowed from the Eurythmics.

The actual song is very well put together and contains some abosolutely ravetastic stereo panning which has to be heard to be believed. One of the best tunes I've heard for a long time – 11 out of 10 for this one, Tony.

Jonathan Maddock

Disk information

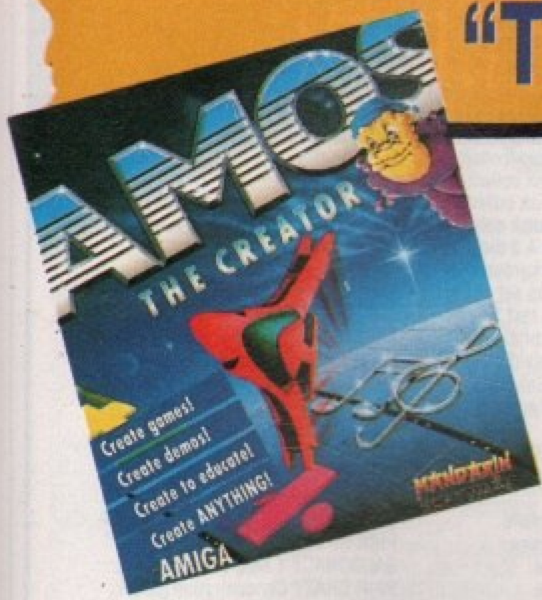
	Disk No
Shamen Remix by Zeff	1380
Hardcore Techno Disk 3	1371
Techno Attack 1	SS10
Shamen Remix by Two Toms	1399 & 1400
Utah Saints remix	1293

All the above disks are obtainable from 17 Bit Software on 0924 366982.

Once again that's all that space allows for this month but if you've got any news, views, moans or ideas drop me a line at the usual address. Until next month, bye for now...

"The Amiga was made for AMOS"*

*K. Sumpter, AMOS user in Swindon

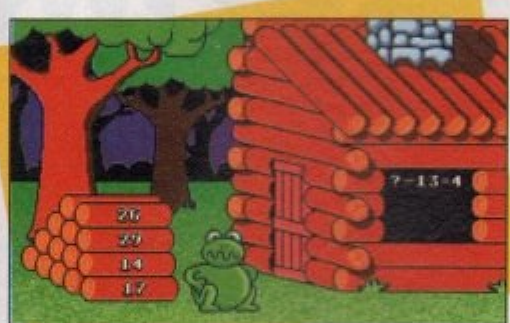


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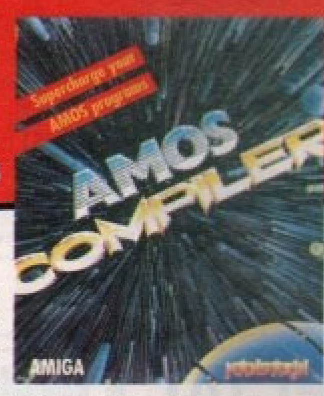
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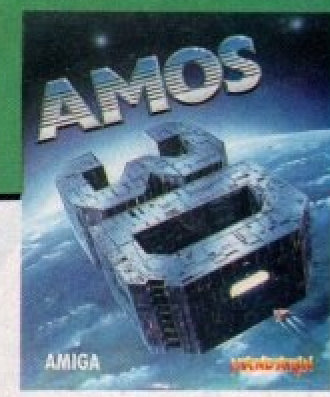


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PPD 19 Kylie Demo (2 Disks)
PPD 22 R.A.F. Mega Demo (2 Disks)

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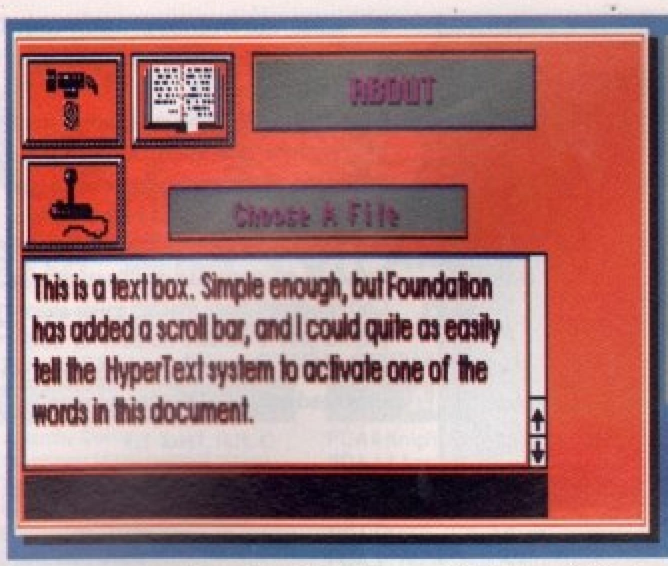
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A firm Foundation

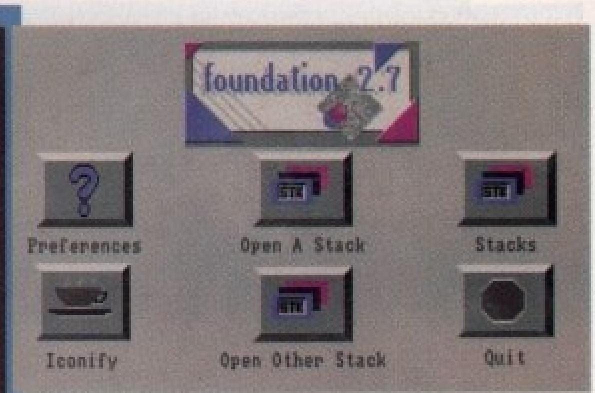
Stevie Kennedy tries his hand at software authoring, and finds it can be made easy

Software authoring packages won't write your program for you, but the difference is hardly worth arguing about. With the aid of an authoring system, you can tell the Amiga what to create, then go away and lounge around the pool while the machine does all the hard work.

Spotted the white lie yet? OK, 'fess up time, not many of us have swimming pools to lounge around, but the point is still the same. The purpose of any software authoring package (SAP, believe it or not) is to take all the hard work out of creating anything from applications to games, and they have been something of a wet dream in designer's circles for years.



Create your own applications with little fuss



Foundation's control panel is a launch pad for your stack, rather than an editing area

SAPs for saps

Only recently have SAPs begun to appear in any usable form on microcomputers, and only with the release of packages like CanDo and Foundation have home users been offered the chance to get in on the act and write their own software with little or no knowledge of machine code.

If you purchased our October issue, you'll have received an introduction to SAPs by way of the excellent CanDo demo disk we supplied with that issue. The heart of CanDo is its ability to generate long sections of code to interpret what the user has told the program by way of mouse clicks.

CanDo offers most of the features a package could want, and has been the only true SAP available for the Amiga until the release of Impulse's Foundation program.

Foundation is more of a cornerstone for your programs than a foundation. It will hold everything up so long as you build intelligently on it, but it won't support a load of badly planned rubbish.

Like CanDo, it is heavily button-screens-windows orientated, and will help you produce the fastest and initially most impressive results if you use it to generate presentation applications. For complex slide shows, animated encyclopaedias, or educational games, Foundation is perfect because at this level the user has little or no code to worry about.

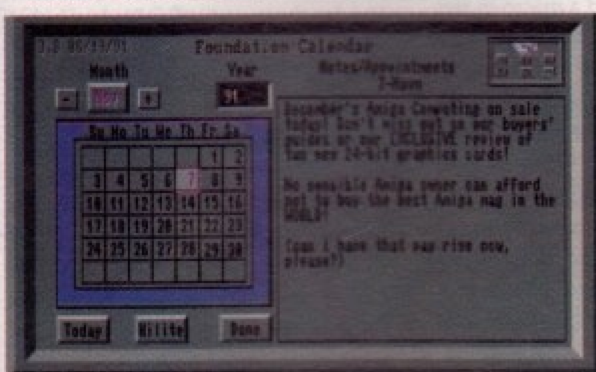
Ten minutes

As long as the graphics and sound effects already exist, you can just pull them into the program, design buttons or windows for them, and hack the whole lot together ten minutes. As you delve deeper into the program, however, you start to run into Foundation's FAST-talk scripting language, and at this point it's time to take a look at the program's structure.

The prefix "hyper" has been added to just about every word in the dictionary over the last couple of years. Since Apple's Macintosh started the ball rolling with HyperCard, there have been HyperStack, HyperText, and even HyperMedia (just in case you didn't find MultiMedia confusing enough). A lot of hyper, eh?

Foundation is designed to offer the user-friendliness of a HyperCard system by building its applications, called stacks, out of frames and backdrop objects. The user opens a stack, then adds as many frames as required for the application being designed. For example, a tourist information stack coded using Foundation might contain an initial frame acting as a guide to the contents of the information frames, then a series of other frames containing information on the local area. You could use scanned photographs of local landmarks, fragments of sampled speech to highlight the local accent and language, and even sound effects of, for instance, a steam train if your area contains a railway museum. By adding frames one at a time, the user can build up an extensive application without breaking into a sweat.

You might be thinking this sounds suspiciously like a description of CanDo, and you'd be right. Although Foundation is based on the exotic sounding HyperCard, its stacks and frames are very similar in principle to CanDo's decks and cards. Where Foundation differs mainly is in its flexibility and its support for HyperText.



The calendar stack shows a little of the program's versatility

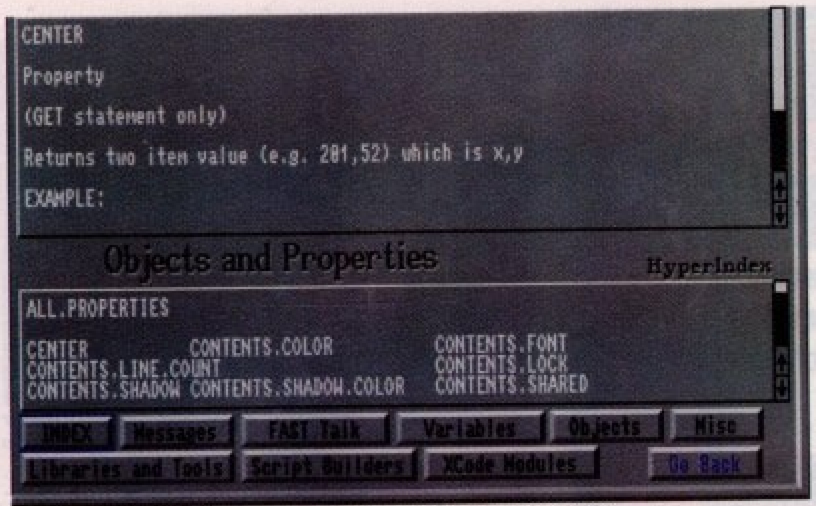
Flexibility

Unlike CanDo, which sacrifices speed to extreme friendliness (let's face it – CanDo will do everything except marry your sister), Foundation strays a little more on the side of design flexibility. There are two modes of operation, Browse and Modify, but no vast array of subsections as in CanDo. With Foundation, everything can be accomplished from a single screen.

In modify mode, the full screen is visible, with all options on three pull down menus. Rather than relegate screens, windows, scripting, and button definition to their own little panels, Foundation enables the user to start with a generic object and decide what it's going to be afterwards.

For example, if you created what you decided was to be a clickable button, then later decided you'd rather it was a text input field, it would be a matter of a couple of menu choices to enact the change. If you like the colour, font, and panel type used for the original button, the change would be even easier, and if you want to change the object's size, all you need do is drag it out to its new dimension.

In CanDo, you'd have to delete the button, then create a text input ➤



The online help is useful if you need an example or want to check your syntax

field from scratch. Likewise all CanDo operations, slowed down by the use of separate panels for all functions, are more time-consuming to design and edit. Foundation's menus are long and stuffed full of options, but once you figure out where everything is and learn the keyboard short cuts, your speed of operation is dramatically faster than in CanDo.



Another application generated using lots of data entry fields

Not so easy

The downside is that the program isn't as easy to use as CanDo. To begin a session, quite a bit of manual work is required, and if it remains unchanged and is anywhere near as badly designed as the manual we recieved, this will be a major headache.

Foundation doesn't carry the object-oriented approach through its own structure, unlike CanDo, which won't do anything without first being told its eventual objective. For instance, if you were halfway through a session and you suddenly realised you'd like to put in a scrolling text window with a button-launched file requester, you'd be consigned, as I was, to searching through the manual in search of the FAST-talk commands to enable the new object.

There's no "how to do such-and-such" structure to the manual, and no equivalent in the program. CanDo's slow panels come into their own in this respect as they contain all the options you need for each object. Foundation's structure, though more streamlined, can leave you guessing for long periods of time.

The inclusion of a decent user's guide would see most of these problems solved, and with the feedback Impulse should be getting from early users, there's no excuse for not producing one. There is extensive online help in the shape of stacks containing detailed information on the program's various scripting commands, but these are little more than extensions of the manual.

Perhaps the best feature in the help stack is the option to copy out of it any example script you think will be useful. If, therefore, you're stuck on the animation commands, you can load up the help stack, jump to the command whose syntax or usage you're having difficulties with, then cut and paste the example you find into your own script.

This isn't a substitute for a "how to do" guide, but it comes in handy when you know which command you want but not how to use it.

The FAST-talk language, apart from its comprehensive list of commands for the usual programming needs, has a number of commands to enable control of a CDTV disc, making Foundation the first SAP to generate applications for Commodore's laser machine. For example, to play a certain number of audio tracks on a CDTV disc, the Foundation user need only send the command:

```
CD.PLAY.TRACK 3,6
```

to tell the CDTV to play tracks three to six.

If you need to find out exactly what a disc contains, the command CD.VTOC will return a multi-line file containing the disc's track information in standard MSF (minute-second-frame) notation. Using this information, the user could then build a complete program of what to play and when.

This sort of support is not restricted solely to the CDTV, however, as Foundation is also capable of driving Laserdisc players and controlling other peripherals via the parallel and serial ports, not to mention its ARexx port. The CD.PLAY.TRACK command, for instance, has a brother in CD.PLAY.MSF, which uses CD-DA/CD-ROM standard MSF notation capable of controlling any compatible CD device.

Easy recorder

Foundation's macro recording function can only be described as excellent. Rather than opt just for the ARexx macros utilised in CanDo, Foundation has the ability to record a macro in real time. All the user has to do is press F9 to start recording, carry out whatever sequence of actions he or she wants in a macro, then turn off the recorder by pressing F9 again.

In this way it is simplicity itself to automate the production of buttons, screens, or just about any object you please inside the memory limits of your system. When recording is over, you save the macro under a sensible name, such as "ButtonMacro" and it is available at any time by pressing F10 to bring up a list of user-defined macros.

HyperText

HyperText is system whereby individual words in a document can be treated as "active", such that clicking on them produces a second text panel with more information on your choice of subject. Foundation's implementation of HyperText, which CanDo doesn't support, is a very powerful tool once mastered.

An object containing text can have its own HyperText script attached to any word set to the HyperText identifier. The identifier is either bold, plain, underlined, italicised, or text of a user-selectable colour. In other words, if a text box has a line of text about local industries, each of which is printed in bold text, the viewer can click on one of the industries, say **Pottery** manufacture for Stoke-on-Trent, and the HyperText script will detect the click and flick to a screen containing information on the potteries.

The potential for the HyperText system is pretty much limitless, as HyperText-identified words can be spattered around all through a presentation piece and as many frames as your system will handle tagged onto them. In addition, any action you can call from a FAST-talk script can be called from a HyperText script because Foundation's HyperText implementation supports every feature of the program.

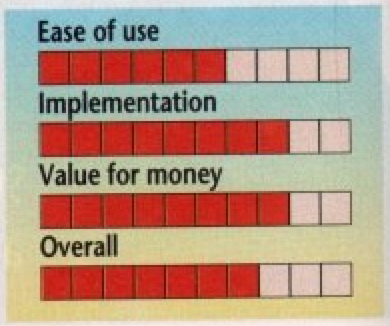
It would be quite possible to produce an entire program or presentation from HyperText panels without bothering with buttons or menus. In some situations, such an interactive encyclopaedia, it is easily the most appropriate way to go about building your application. Its inclusion is a major plus point in Foundation's favour, and sets it aside as the best choice for the serious presentation designer.

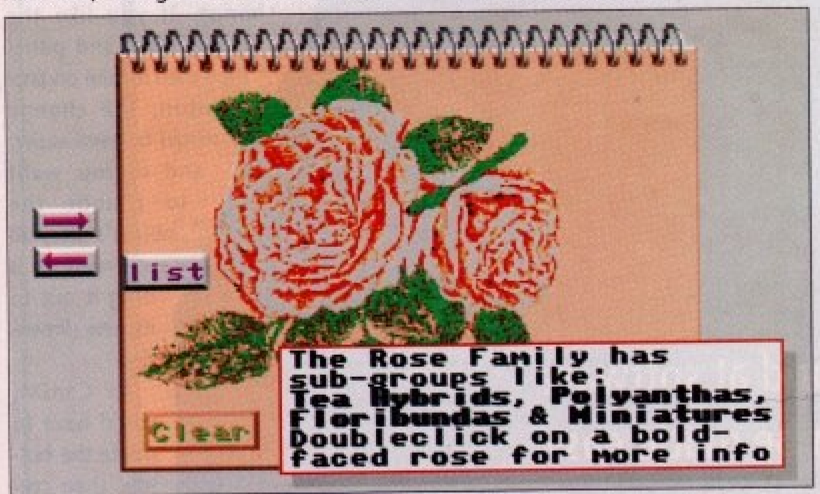
Conclusion

Foundation isn't as user-friendly as CanDo, but it is quicker in operation and in some ways more powerful. For certain applications, those which would benefit most from HyperText, it is in effect far superior. Home users who want to produce their own programs might baulk at the dire manual and the program's less formalised approach, and for those users, CanDo is a better option.

For business users, however, and developers looking for a HyperMedia prototyping tool, Foundation is the answer to many "what if..." dreams. As it completely embraces HyperText, and has the potential to drive many of the CD-based systems becoming more and more prevalent in the multimedia market, it is sure to find a niche for itself in what is still a decidedly under-developed market.

Foundation is a product of Impulse Inc., 6870 Shingle Creek Parkway #112, Minneapolis, Minnesota 55430
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Price: $250





HyperText in action – the words in bold text activate more information panels when clicked on

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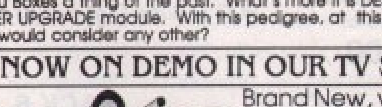
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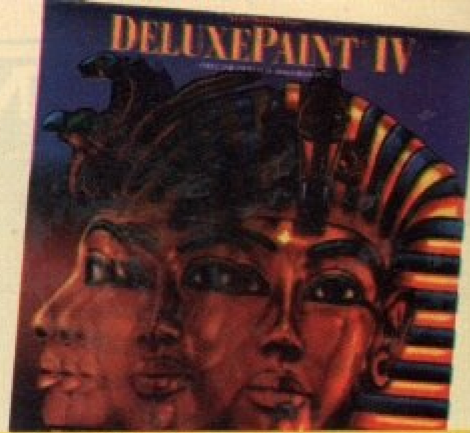
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Pencil



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the Gallery

This month we proudly announce a new flood of similar pictures. Gone are the days of endless digitised RoboCops, now we're being inundated with likenesses of that fun loving Austrian, Arnie Schwarzenegger in Terminator 2. Mind you, they're actually pretty good. Take, for example, the rather groovy T2 rendition from Steven Lane. Not bad, eh? It's not even copied from the film. Cripes.

This month's obligatory ray traced image is a cut above the usual teapots and spheres. Entitled simply "Pencil", it's an ambitious effort that certainly pays off. We've got M Ball of Leicester to thank for that one. So altogether now, thanks "M".

He's dead. He's fat. He's back! Yes, "Elvis", the King of Rock 'n' Roll, hits the Gallery this month in pixelated form from A Stanton of Ellesmere Port. "No ray tracing or digitising" we are told. Good for you. It's nice to see some originality creeping back in to computer art.

Hide the vicar! It's that queen of sauciness, "Madonna"! This extremely fruity – but very well drawn – picture comes courtesy of Mark Pilbeam, as does "Star Patrol". Both pictures make great use of DPaint's high res graphics, with plenty of attention to detail.

For his top quality hand drawn work he's earned himself a copy of DPaint IV hot off the press, and a framed copy of his Madonna picture to show off with.

Remember, hand drawn pictures are much more likely to win than scanning or digitising, so, lets see some originality here!



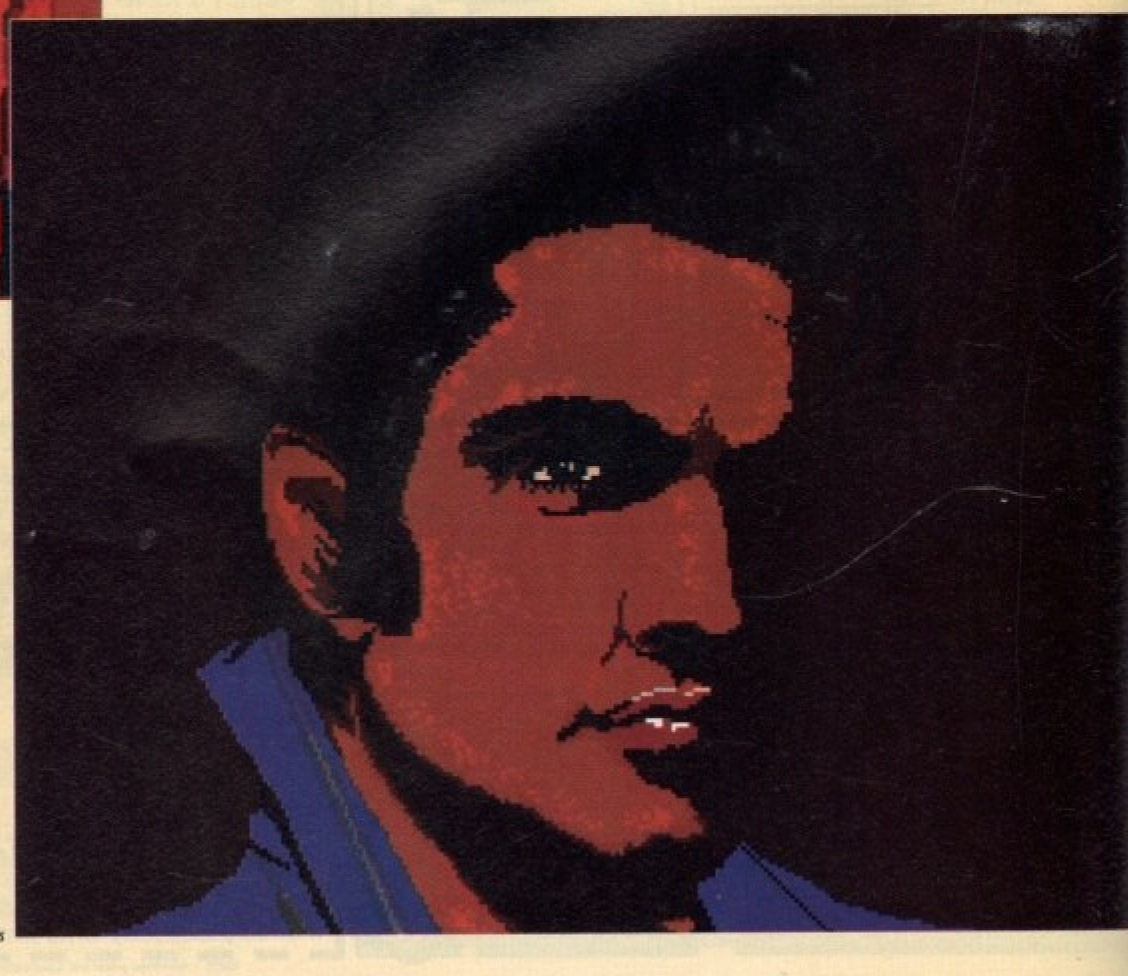
Arnie Schwarzenegger

If you've got any Amiga art at all knocking about at home then send it in. But please, try to be original. Go wild, create something unique and stunning and send it to us. We want blood, sweat and tears on these disks, people!

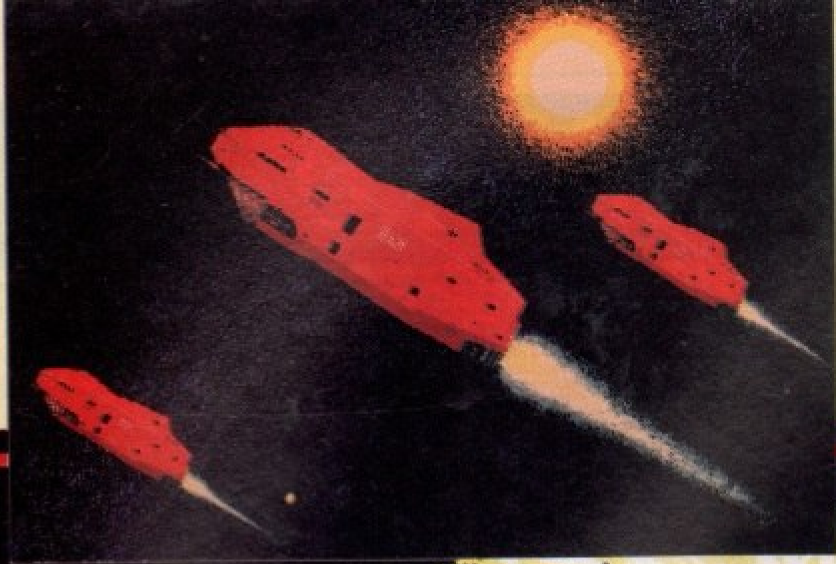
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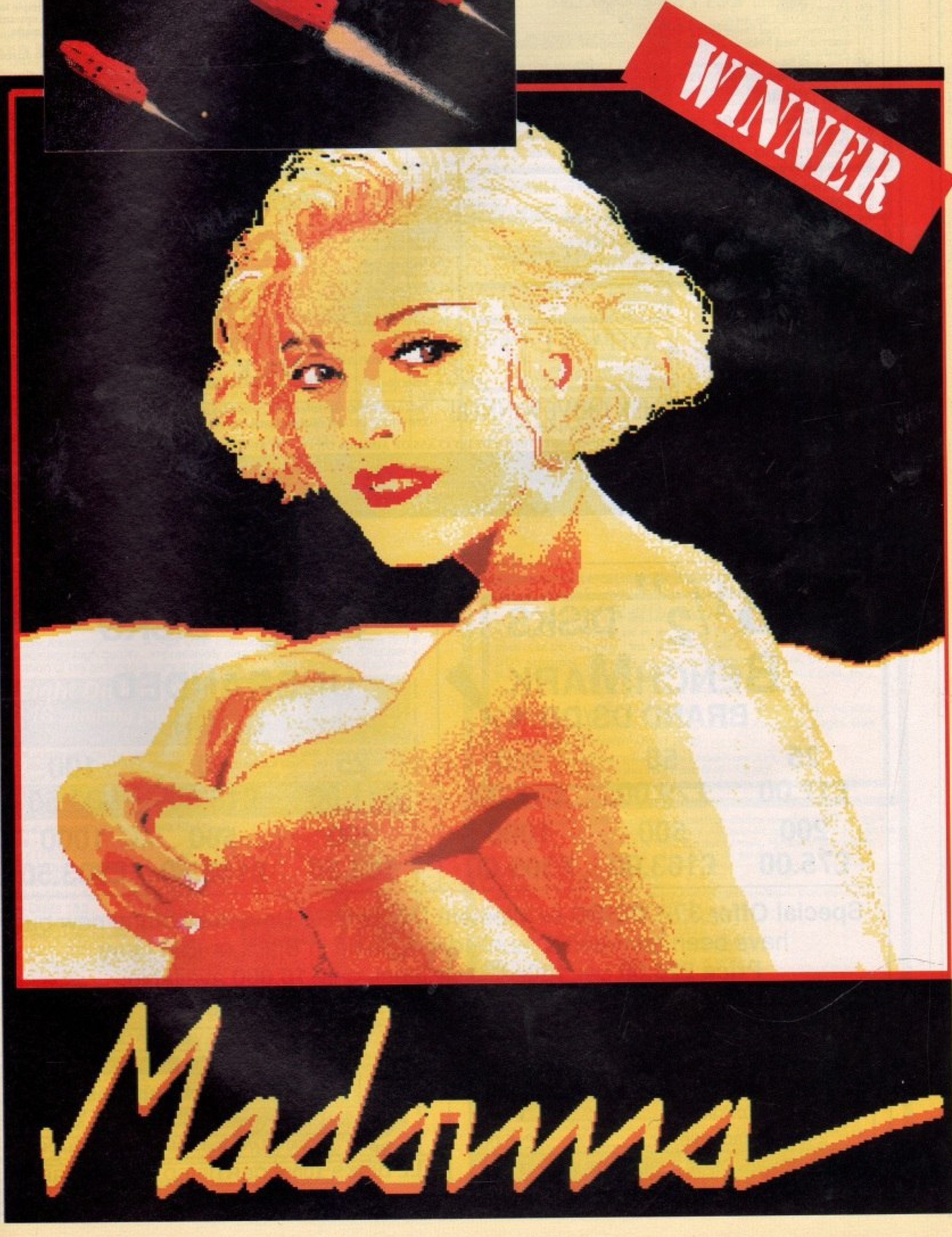
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Elvis



Star Patrol



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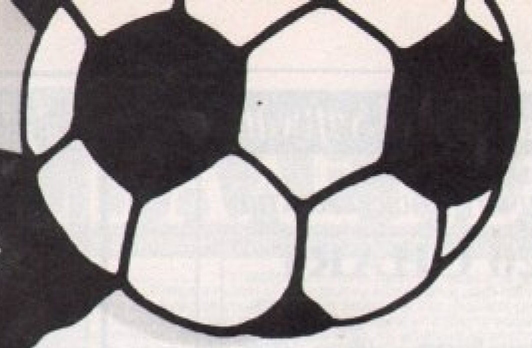
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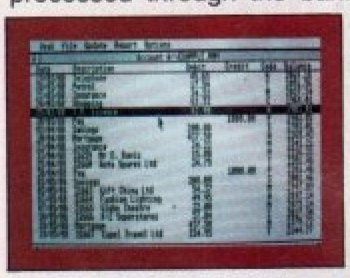


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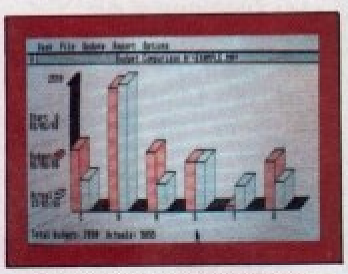
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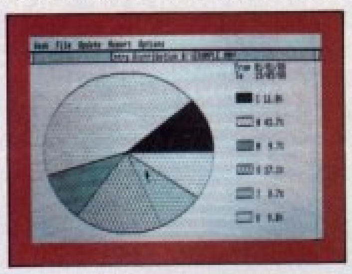
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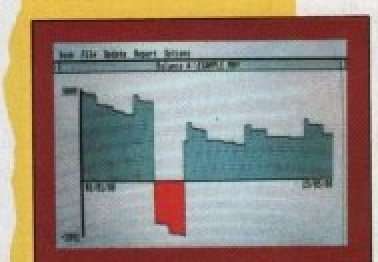
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Speed and code compactness are the acknowledged driving forces behind most programmers' moves into the world of assembler. Learning a low-level language, such as 68K assembler, is not, however, a task to be taken lightly, but having said that, it is possible to minimise many of the difficulties which assembly language programming presents. How? Simply by tackling the design/logic problems separately. That way you don't start writing the low-level code until you're sure of exactly what it is you are trying to do.

Logical difficulties aside, the other main problem with learning 68K assembler on the Amiga stems from the need to understand the Amiga's operating system and its documentation. This provides a major pitfall to many would-be assembler pro-

Concluding his series on languages, Paul Overaa reveals the benefits and pitfalls of moving into assembler programming



Speedy solutions

grammers and I think it's worth mentioning once again that some basic understanding of C is necessary in order to cope with the Amiga's documentation – this applies even if you intend working mainly in assembler.

There's another reason why C gets a mention this month. In many areas – setting up Intuition screens, windows and menus for instance – there is little to be gained by working in assembler and many programmers will do all this initialisation stuff in C and then patch in the assembler code where it really makes a difference (assembler scroll routines and the like).

Save money

The reason I'm telling you this is to save you money because if you accept that some understanding of C is not going to go amiss, and if you follow this path to its logical conclusion, then the chances are you will get a C compiler, whether it be a commercial version or a public domain style offering.

What has this got to do with assembler? It's simply that all C compiler packages provide their own assembler program. In other words you will only ever need to buy an assembler if you are 100 per cent certain that you are never going to get involved with C! As far as specifics are concerned there are quite a few assemblers floating around and I've limited my list to those that are reasonably well known.

What does need to be pointed out is that when you buy a commercial assembler, like DevPac, you will get the official Commodore-Amiga header/include files. When you travel down the public domain/anything-ware trail you won't, so at some stage you will need to buy the appropriate files from Commodore.

Anyway, enough of these ramblings – here are some of the products that you should know about...

HiSoft DevPac: I've used DevPac for a number of years and I must admit I do like it. The edit/assemble/link facilities are easy to use, fast, and reasonably well integrated into the Amiga's WIMP environment. DevPac has a large, and suitably content, user base and the product has been well supported over the years.

K-Seka Assembler: Another package that has been around for quite a while. It is well thought of and has built up quite a substantial user base.

Lattice/SAS C: I'm not going to say too much about this C compiler package because I gave a brief outline last month. It comes complete with an excellent macro assembler program. What's more, the Lattice/SAS CodeProbe symbolic debugger – which has to be seen to be believed – provides support for both the C and the assembly language programmer.

Manx Aztec C: Another commercial C compiler package which provides a good assembler.

A68K: This public domain assembler was written by Charlie Gibbs and is based on Brian Anderson's 68000 cross assembler (published in Dr Dobb's journal in 1986). A68K is an excellent piece of software which is in fact provided as an integral part of most Amiga public domain-type C compiler systems.

ACC: Amiganuts United supply this assembler environment. It's based on the public domain A68K assembler and Blink linker, but it also offers an editor, and provides a number of include files and examples. In buying this disk you'll get rather more help documentation-wise than you would do if you just picked up the A68K and Blink programs separately.

The benefits

At this point you might be expecting lists of benchmark timings for various routines with notes to the effect that these show... compiler X is the best for Basic, compiler Y will produce the best C code and so on. The fact is, as I've mentioned before, that any benchmark will target a very specific area of the compilers performance. Trying to obtain a "generally useful" value by averaging half a dozen benchmark routines is nigh-on impossible and the result is that many such comparisons tend to give narrow, and invariably misguided, views.

More to the point, a great many potentially important benchmark traits – such as math function execution time and graphics redrawing operations – are, on the Amiga, done using standard Amiga libraries and Amiga specific hardware calls (moving images with blitter calls etc) so in practice the main "execution time cost" comes from the system routines and not the compiler generated code anyway!

Improvements

It is however certainly useful to illustrate the types of performance improvements that can be obtained as you move from Basic interpreters to Basic and C compilers and 68000 assembly language, so some speed details are going to be given. Equally important however is an understanding of of why some languages are "faster" than others so I'm also going to spend some time explaining why this is the case.

With an assembler the final code, at the end of the day, will be directly related to the instructions you've written. Any speed/performance differences between the code generated by different assem-

blers will be minimal and due to assembler-specific items that may have been added on to the translated code, for instance differences in the startup code which is tagged on by the linker.

You may, incidentally, see adverts which claim that assembler X can generate code twice as fast as assembler Y. Sure, this speed is useful but to my mind the actual speed of the translation process – the time taken for the assembler to actually convert an assembly language program into runable instructions – is no longer a factor of any great importance. With the memory available on the Amiga the assembly/linking process can usually be done completely in RAM so assembly times are easy to keep short.

In general the same applies to high-level language compilers but, since the conversion of a high-level language is a much more complicated process, compile times are correspondingly longer. Even so, they are rarely more than a few minutes when the compilation proceeds in RAM.

Creation

As far as code creation goes however, the situation with Basic and C compilers, is rather different. Even with identical source code the final runable code produced by the various compilers can vary greatly. This may seem strange, so it is worth looking at the underlying reasons. A compiler – and an interpreter come to that – will look at your program and try to generate some suitable low-level instructions.

Speed, or the lack of it, in the final program is due to one thing – the efficiency of the resulting code. There is a common misconception here that needs clearing up – compilers are rarely either "efficient" or "inefficient". The truth of the matter is that they usually tend to be a bit of both.

One particular compiler may, for instance, be able to produce very efficient fragments for structured loops but may fall down by producing inefficient switch structure code when dealing with large numbers of switch cases.

Compilers can also alter some of the fundamental characteristics of the code that you write. You might write a loop like this:

```
for (i=0; i<10; i++)
{
b=b+c;
}
```

but the compiler, may recognise that the b=b+c expression does not need to be inside the loop and so it might generate code corresponding to:

```
b=b+c;
for (i=0; i<10; i++)
{
a=a+b+i;
analyse(a);
}
```

Another compiler might be less impressive in the above area but it might however be able to produce cleverly optimised case code. As a specific example the Lattice/SAS C compiler system includes an optimiser that can eliminate unused variables, move invariant loop calculations outside of the loop, rearrange flow control schemes and even re-order the operations you've written. Sozobon C incidentally – and its associated variants ZC, NorthC and so on – provides little or no help in these areas.

Object	Interpreter	Compiler	Code Line
byte	8.42 secs	0.40 secs	al=bl+cl
word	8.64 secs	0.60 secs	a&=b&+c&
long	7.94 secs	0.40 secs	a%=b%+c%
float	6.23 secs	1.5 secs	a=b+c

Table 1

C compilers can also choose, or be directed by the user, to store data in locations which can be rapidly accessed (primarily processor registers). Here are two C examples which use a global and a register variable respectively to count down from one million to zero. Using the default compiler options with Lattice/SAS (without the optimiser) the resulting code for the first routine – running on an Amiga 2000 – took 12 seconds to execute. The second register version on the same machine needed just six seconds!

```
/* GLOBAL VARIABLE VERSION */
#include <stdio.h>
void counter(void); /* prototype */
long int i;
main()
{
counter();
}
void counter(void)
{
i=1000000; while(i--);
}

/* REGISTER VARIABLE VERSION */
#include <stdio.h>
void counter(void); /* prototype */
main()
{
counter();
}
void counter(void)
{
register long int i=1000000; while(i--);
}
```

How does this compare with alternative offerings? Firstly let's get things into perspective. Interpreted Microsoft Basic needed four minutes for a simple loop like this.

The GFA Basic interpreter cut the time of an identical loop to 40 seconds, and a default compilation reduced that to around 13 seconds.

As far as speed of arithmetic/maths operations are concerned, much depends on the types of objects being dealt with. Table 1 shows some GFA loop corrected speed comparison figures obtained with GFA Basic using a loop that performed the addition of two similar objects 5000 times.

I'm not going to quibble about GFA timings because I didn't check all of them. What is useful however is the relative relationships between the interpreted and compiled versions, because it shows that without any additional coding effort the compiler can make your Basic code run significantly faster (of course similar gains are to had with the Hisoft and other Basic compilers). In short then a Basic compiler will, in many cases, make significant differences to the speed with which Basic programs will run.

In general however you will never – except in the case of a few deliberately engineered examples – approach the speed that can be achieved by using C as the language.

Back to C for a moment and to those Lattice/SAS timings for the loops mentioned earlier. Using K&R style equivalent programs NorthC gave figures of 12 seconds for the global variable version and seven seconds for the register variable form – by no means a bad performance!

Benefits

Finally we get to the benefits of assembler programming. Have a look at the code which the NorthC compiler generated for the register variable version of the counting loop shown earlier:

```
            ; ram:test.c
            SECTION NUM1,CODE
            XDEF        _main
_main:
            bra         L1
L0:
            jsr         _counter
L2:
            unlk        a6
            rts
L1:
            link        a6,#-0
            bra         L0
            XDEF        _counter
_counter:
            bra         L4
L3:
            move.l      #1000000,d3
L6:
            move.l      d3,d0
            sub.l       #1,d3
            tst.l       d0
            beq         L7
            bra         L6
L7:
L5:
            movem.l     (sp)+,d3
            unlk        a6
            rts
L4:
            link        a6,#-0
            movem.l     d3,-(sp)
            bra         L3
            SECTION NUM2,DATA
```

The main execution time cost comes from the loop:

```
L6:     move.l    d3,d0
        sub.l     #1,d3
        tst.l     d0
        beq       L7
        bra       L6
```

and in this particular instance it was easy to see that the following loop would do the job just as well:

```
L6:     subq.l    #1,d3
        bne       L6
```

The benefit? This reasonably trivial alteration to the NorthC generated assembler code reduced the run-time to under four seconds!

Last words

Over the last three months I've mentioned a number of compiler and assembler packages discussing some points which I hope have been of interest. At the end of the day the bottom line is really that all compilers, irrespective of the language they are working with, have to make compromises so their generated code will rarely be perfect. A program written in C however will invariably outstrip a similar program written in compiled Basic by a considerable margin.

Despite C's impressive run-time performance it is doubtful whether a C program has ever been written whose performance could not be improved in terms of the final instructions created by the compiler. This however is the price to be paid for using a high-level language.

68K assembler, once mastered, will allow you to write extremely efficient or extremely compact programs. Such programs will unfortunately always take far longer to develop than their high-level counterparts but that is the price paid for taking the low-level path.

Despite the potential pitfalls, assembly language programming appears to be as popular as ever and most programmers eventually decide to learn something about it, even if most of their coding is done using high-level languages. You can of course mix Basic and C code with assembler patches and get the best of both worlds – although that is a story for another time!

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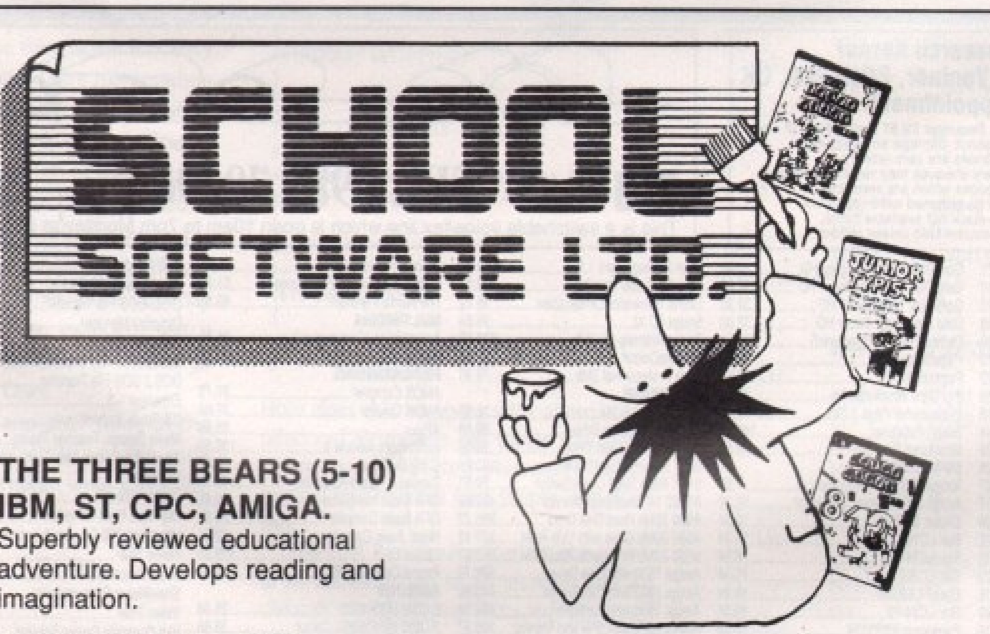
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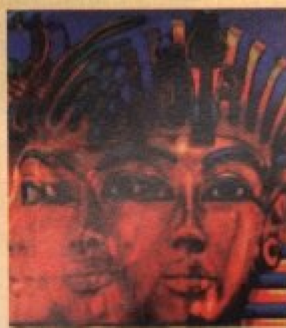
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18342	29485	39871	50275	59374	69372	78132	86281	93918	103736
18456	29574	39249	50475	59673	69483	78254	86371	94372	103847
18650	29837	40192	50645	59771	69871	78341	86382	94493	103983
18836	29938	40238	50829	59948	70001	78435	86654	94594	104372
18987	30236	40681	51273	60173	70261	78573	86891	94817	104473
19335	30491	40947	51425	60237	70463	78641	86938	94918	104684
19398	30711	41172	51625	60352	70584	78746	87172	95283	104948
19648	30982	41635	51857	60674	70871	78917	87281	95524	105372
19746	31173	41698	51958	60716	71273	79272	87382	95573	105482
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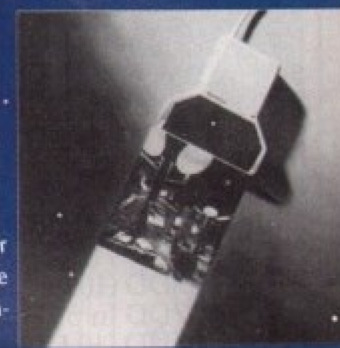
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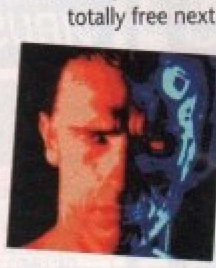


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Phil South ......Amiga Shopper Aug '91

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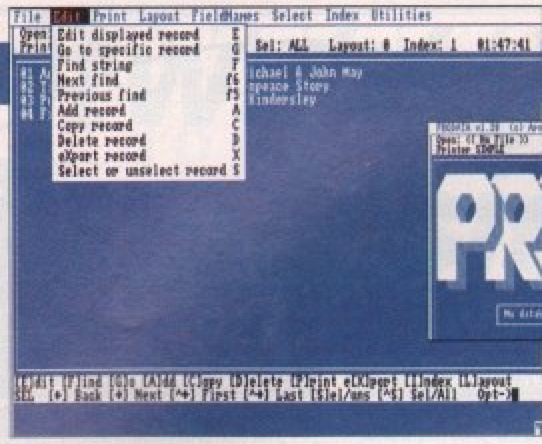
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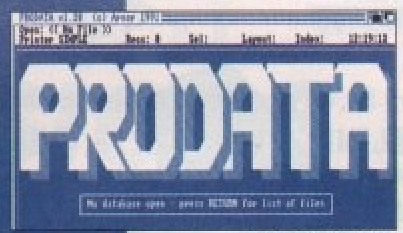
A refined reputation

Pat Winstanley finds out why upgrades for Protext and Prodata are so eagerly awaited

Prodata Version 1.2



The new menus



The opening screen

Pull down menus are a welcome addition to this version – if you use menus, that is. Personally I find switching between mouse and keyboard rather distracting. But they are a useful way of obtaining an overview of available commands. For users accustomed to menus on other applications they are a real boon and infinitely simpler than pop up onscreen lists.

This version's ability to merge databases is extremely useful as very often two databases contain similar information which is better dealt with in a combined form. In this version duplicate records with different index fields are stored automatically while records found with matching index fields offer the option to display both then store or ignore. Several other new functions are to be found in 1.2 which make editing and other operations smoother and more efficient. Thus using automatic record numbering a field set up as the record number field is automatically set to the next number for a new record. This feature can be turned on and off at will and record numbers can be changed manually.

Now it is possible to print labels two across the page by setting up attributes in the layout menu, but careful positioning is required to print the right hand label correctly on the page. Instantaneous filtering and editing fields in any order are also included in this upgrade.

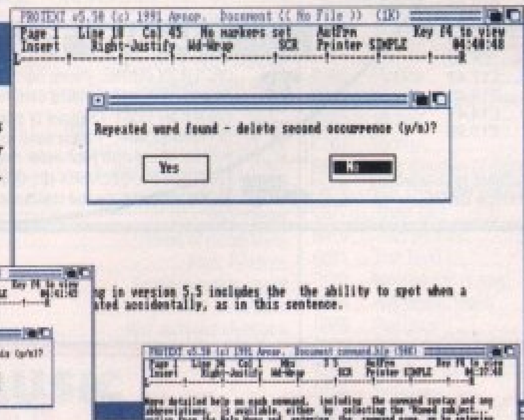
Protext Version 5.5

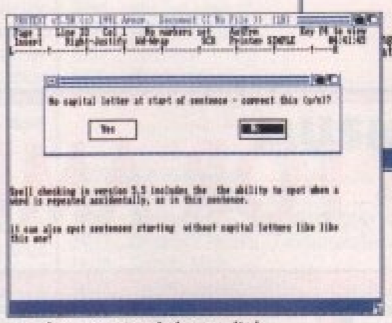
Wordprocessors (that is, fancy typewriters) come in all shapes and sizes. From the humble Ed and Notepad on the Workbench disk to mighty DTP warriors there are programs to suit any need.

Budding writers must evaluate their needs before choosing a program since the journalist churning out several thousand words of plain text each day, the person who simply wants to write a few letters, the club newsletter editor and the ad agency writer who needs to incorporate photographs and graphs require quite different tools for their work.

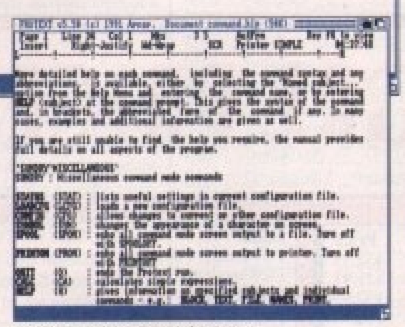
Unlike many fancier programs, Protext is one of the professional journalist's main choices when plain text crunching is the main requirement. And why? Because Protext, once mastered, provides all the facilities needed for serious writing from Ascii text. Due to its specification as a text cruncher, Protext eschews the fancy fonts, wysiwyg and graphic capabilities of its rivals with the bonus of sheer speed and ease of use as a trade off.

Protext spells double trouble for repeated words...





...and even spots missing capitals



The comprehensive Help menu

Thesaurus

This new version has several enhancements. Perhaps the most useful is a pop-up thesaurus with 43,000 main entries and 827,000 responses. For writers concerned with style the thesaurus can be used in conjunction with the new word count facility which offers not only simple word and character counts but also words per sentence and an analysis of individual word frequency either alphabetically or numerically – useful for checking gobbledegook. The spell checker now boasts a couple of extra handy features. There is the facility to spot repeated words such as "the the" and also an automatic check on sentences to see that they begin with a capital letter.

During the spell check either of these occurrences are flagged with the option to change them. To avoid intentional occurrences of these being thrown up, a spell ignore marker can be placed during typing.

Another handy feature, especially when fairly narrow columns of text are right-justified (like newspaper columns) is Automatic Hyphenation. With narrow columns, lots of white space occurs on lines containing only two or three long words, giving a raggedy appearance. While it is possible to hyphenate manually to improve the layout of the text, problems occur if changes are made to either the text itself or the column width. Any changes and it must be performed again.

Now Automatic Hyphenation can be turned on so the process is continuous during editing. The amount of white space allowed is set from either configuration or stored commands, allowing control of the number of spaces allowed between words before hyphenation takes place. Be warned – a national newspaper recently had the word "arse-nal" hyphenated as shown at the end of several lines of text which occasioned great hilarity on the letters page!

There's nothing more annoying than printing a multi-page document only to find the last line of a paragraph is at the top of a new page or the first at the bottom. These "widows and orphans" can now be eliminated by Protext. The page break is adjusted to push the last two lines to a new page or a whole paragraph pushed to start a new page.

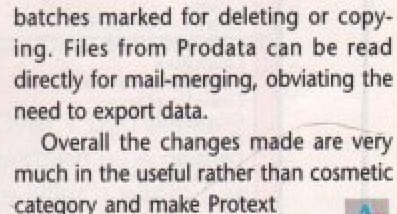
Many writers don't bother indenting the first paragraph line but instead leave a blank line between paragraphs. This can lead to a blank line being unnecessarily printed at the start of a new page. Now blank lines in this situation are suppressed automatically if required. A new file conversion format has been added of interest to anyone wanting to pass files to Microsoft Word on the PC or Mac. Rich Text Format (RTF) files can be generated which retain styles such as italic, centred text, bold, but enlarged text and Elite don't carry over – at least to the Mac.

Dates

Several miscellaneous features are now provided to speed things up. Date calculations now take both the Julian and Gregorian calendars into account, a two digit year such as "91" is assumed to be the twentieth century. Help opens a window which can be scrolled through, and clicking on keywords brings up further help.

F2 now calls the file selector directly and files can be viewed in different orders (date, size, disk order and so on). Files can also be hidden and batches marked for deleting or copying. Files from Prodata can be read directly for mail-merging, obviating the need to export data.

Overall the changes made are very much in the useful rather than cosmetic category and make Protext even more of a joy to use.



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U017	Business pack (3 disks)	D/base,S/sheet,W/P
U020	C-Manual (3 disks)	Guide to C-programming
U033	Education 1	Learn German
U035	Education 3	Weather
U036	Education 4	Evolution
U039	Flexibase v2.0	Popular database
U042	Gurubuster	Rid those gurus!
U049	Mandlebrot Explorer	Excellent piccies
U050	Master Virus-killer	Recognises over 100 viruses. Essential
U051	Messydos	Excellent favourite
U052	Business Card Maker	Simple, but useful
U053	North C	Compiler
U061	Games Music Creator	Fav. composition writer
U062	House Samples 1	Loadsa samples. Suitable for GMC etc.
U073	Sid v1.06	Cli helper. Very popular
U075	Spanish Tutor	Bueno!
U076	Star Trekker	8 channels, sampler. Superb
U077	TBag 31	Includes Boot intro
U084	Wordwright	For all you dizlecksicks!
U089	Journal	Very good account-handler
U091	Chet Solace	Utils. extravaganza plus game
U092	Cartoon Brushes	Lots of famous characters
U093	Jamcracker	Songcreator from Vision. Well presented
U097	Red Sector demo-maker	Recent. Exc. disk
U098	Database master	Good. User friendly
U101	C64 Emulator	Take your Amiga back to basics
U102	Multirippers	Also Sanity copy and Pacman copy
U103	Word Frenzy	Wordprocessor
U104	Golf Recorder (1 meg)	Golf fans necessity
U106	Med v3.11	Latest version of sequencer
U108	Picture Help	Convert Ham pics
U111	Tarot. (2 disks)	Amiga card reader

DEMOS

D006	Anarchy Music Disk	Catchy stuff
D010	Animations '91	3 anims, including rocking chair
D015	Agatron Star Wars (1 meg/2 disks)	Captivating graphics
D016	Acid Music	Some wicked museec & grapheecs!
D020	Bowie Demo	David Bowie of the past
D022	Budbrain Megademo (2 disks)	Still one of the best disks around
D021	Budbrain 2	The equally briliant sequel
D023	Bass Megademo	Electrifying graphics & pulsating beat. Get it!
D027	Beastie Boys	Excellent presentation
D032	Cheap-o-prodn	Funny cartoons
D036	Coma/Cebit/Victory (1 meg)	Classic Acid-type demos
D037	Cool Cougar (1 meg)	Classy cartoon
D048	Dream goes Berserk (1 meg)	Astounding graphics & imagination
D049	Desert Island slideshow	Gruesome pics. Good
D058	Enterprise leaving dock	Famous animation
D060	Elvira	The sexy lady endows herself !
D061	Elvira Activities	Now move her body !
D062	5 Ways to kill a mole	Funny. Not for animal lovers !
D063	Fillet the fish	The possible sequel to Puggs. A must
D067	Fraxion Horror	Chain-saw macabre cartoon. V. popular
D069	Franklyn the Fly (1 meg)	Long cartoon on cute little Franklyn
D075	Girls of sport	Pretty shots of talented girls
D083	Home & Away	Down-under disk
D092	Iraq demo (1 meg)	Topical cartoon. Bush meets Saddam! Bang!
D099	Jesus loves Aciid	Mindblowing music and graphics
D103	Legend of Billy the Kid (1 meg)	Long-running animation. Good
D106	Madonna cartoon anim.	One for the fans
D114	Mike Tyson anim.	Well compiled
D117	Magician v2.0	Recently appraised animation. Recommended
D126	Neighbours	Slideshow from Ramsay Street
D128	Punk croc crew megademo	Now see Jason get shot! Ha!
D129	Puggs in Space	Brill cartoon. Puggs finds it's a different world
D132	Phenomena demo.	Top-quality demo
D143	Ray-traced pics	Some lovely pictures. Loads off W/B
D148	The Run (1 meg)	T. Richter's car-chase animation. Good
D154	Subway Clapping World	Music & graphics. Oldie favourite
D162	Stealthy Manouvres (1 meg)	Excellent demo
D166	Star Trek Animations	Anims. of USS Enterprise
D177	Star Trek Animations	Agatron no.17 More like above. Good
D189	Viz slideshow	Fat slags & others in this slideshow
D200	Silents Bluehouse (2 disks)	Game, demo & great music. Excellent
D201	Sickness simulator	Amusing sounds such as farts, belches etc.
D208	Dragon slides	Compilation slideshow
D210	Kick off 3	Slideshow and music. Good
D204	Sleeping Bag	Great stuff from Horizon
D205	SAE no. 53	10 quality demos
D215	Another 5 ways to kill a mole	It gets sadder!
D217	Farts and Belches	More funny samples
D218	Mr. Potato Head	Incapable dancer demo
D220	Dirty Minds	Naughty slideshow
D222	Greenpeace	Informative demo on Green group
D223	Evolution	Ham pics of world development
D225	Reincarnation of Sgt. Peper	Beatles fans classic. (2 disks)
D226	Virtual World	Excellent disk. 3D scrools
D228	Bo Derek slides	Nice piccies
D229	Maria Whitaker	Slides of model Maria
D230	Star Trek slides (2)	From TV series
D231	Mr. Potato Head 2	Equally amusing sequel
D234	Taxi Driver (1 meg)	Animation
D235	Wendy and Lisa	Well compiled slideshow

MUSIC

M001	808 State remixes	Four good tracks
M006	Batdance remix	Really good disk. Catchy stuff
M010	Bachbusters	An alternative sound to composer's version!
M013	Crusader's Bacteria	Excellent production from the music maestros
M016	Depeche Mode	8 Tracks of reasonable quality
M032	Godbrain loves the world	Great acid-house musak
M038	Hugo's Excentria	This has to be one of the best house disks
M039	I Love Technology	Recent production from Beatmaster. Good
M052	Original Rips 3	Compilation of the best PD music
M053	Pendle Europa Xmas song	Time for the mistletoe music!
M057	Powerpack 3 (1 meg)	Includes Vanilla Ice track
M059	Powerpack 5. (1 meg)	Four great House tracks
M061	Rock Around the Xmas tree	More festive fun!
M062	Random Access	Art of Noise and more. Startling acid track
M066	Sydney Youngblood	Sample of perfect clarity. Worth a listen
M068	Sound of Silents	7 songs from Silents
M078	Zee's Hip Hop disk	Slightly aged now, but good music
M080	Pet Shop Boys	The manic mix
M081	Miami Vice	Superb sample
M083	Technotronic megamix	Long mix special
M085	James Bond remix	Catchy stuff
M086	Great Balls of Fire	Goodness gracious!

GAMES

G001	Autobahn 3000	Control ball through tunnel. Hard
G004	Airwar	Fighter simulation. Good shareware game
G005	All New Star Trek (2 disks)	USS Enterprise classic. Best one
G007	US Star Trek (2 disks) (1 meg)	Another good version
G008	Balloonacy	Destroy city from balloon
G010	Breakout	Classic bat & ball game
G011	Blizzard	Horizontal shoot-'em-up. High quality
G013	Bullrun	War-game, based on US Civil War. Control army
G014	Adventure Solutions (2 disks)	Loads of hints of commercial games. Good
G015	Crossfire (1 meg)	Excellent game written in AMOS
G019	Dungeon Delver (2 disks)	Difficult adventure quest
G021	Demolition Mission (1 meg)	Similar to Balloonacy, good fun
G022	Escape from Jovi	Guide ship to safety. Simplistic graphics
G029	Flaschbire	Old favourite. Get to alarm clock
G031	Gravattack	Control spaceship, picking up keys
G038	Jeopard (1 meg)	Risk-type strategic game
G040	Holy Grail (1 meg)	Text adventure
G043	Learn and Play 1	Good for the kids. Blackboard maths. etc.
G048	Lame-ST-Ports	Shoot down those Ataris!
G050	Master of the Town	Use mouse to smash windows. Very addictive
G049	Megaball (1 meg)	Excellent game. Improved version of Breakout
G055	Mechforce	Strategy game
G056	Monopoly	Board game on disk
G059	Nethack (Fish 460)	Good adventure game, recently appraised
G060	Pipeline	Build an oil pipeline. Superb
G061	Pick up a puzzle (1 meg/2 disks)	Fit the pieces. Good for the kids
G062	3D Pool	Control cue with mouse, and it's all pot luck!
G063	Pacman	The classic game still here
G065	Pixie Kingdom (2 disks)	Tricky adventure game. Good
G072	Star Trek : Next Generation	Not as good as G005
G077	Seven Tiles	Excellent speedball game from Alpha
G079	Treasure hunt	Find the hidden treasure. Good graphics
G081	Trek Trivia	Test your Star Trek knowledge
G083	Wooden Ball (1 meg)	Score three goals to win
G084	Wet Beaver Tennis	Simple, but good fun bat & ball game
G088	Pair Crazy	Match the piccies
G094	Zeus	Simple puzzle game
G096	Assassins games comp.	Very good. Includes Tanx and Amigoids
G098	Battleforce	Control battle of robots
G097	Tomptespelet	Speedball game
G099	Cabaret Asteroids	At last a brilliantly playable version
G100	Towers of Hanoi	Adventure game
G101	Truckin' on	Run a truck company. 2 players
G102	Simulations 1	Includes Amigoids, Metro, Imperium among others
G103	Mental Image 1	Games compilation
G107	Serene 2	Shoot em up sequel
G110	Lady Bug	similar to Pacman
G114	Buck Rogers	Shoot em up. Seems to have infinite lives
G117	Midnight Thief	Text adventure
G118	Downhill Challenge	Ski simulator. Good
G120	Scum Haters	Addictive shoot up
G122	Cubulus	Based around Rubik cube puzzle
G124	Napoleonic warfare simulation	Good
G128	Raid	An excellent shoot-em-up
G129	Stock market	Play with money that you can't lose!

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Virus checker

As yet, (touch wood), I have not encountered any computer viruses. Like a good little computer user, I have made backups of all my important disks. However, as I am unable to make copies of protected games, what happens if these become infected? Are the software houses obliged to replace the disks or would this be at their discretion?

S A Cort, Harpenden

Replacement of disks affected by a third party virus is at the discretion of software houses. It is best to switch off your computer for at least 30 seconds before loading a commercial game. It's also worthwhile checking that commercial disks are write-protected wherever possible.

Band blues

I recently joined a band, intending to use my Amiga 2000, first as a drum machine, then as backing, using other instruments. I already have a moderate library of instruments but there are a few problems regarding copyright laws when the band puts on a paid public performance.

Is it OK to use PD instruments? Is it OK to use sampled sound effects or words from films, songs, etc. Is it OK to use a PD utility such as Med?

During the interval would it be OK to run a PD demo?

I am currently looking for more instruments in PD libraries. The success of the band rests upon your shoulders (not wanting to pressurise you, of course!).

C Fernandez, Hereford

You are free to use any public domain instruments and players. Samples are best steered clear of if you are considering public performances.

There is no problem at all with running a demo during the interval, as long as it doesn't upstage you!

High flying

On Saturday September 7, Royal Air Force Wattisham held an open day for disabled people, during which adults and children with mental and physical disabilities were invited to take part in activities laid on by the various clubs at Wattisham.

The RAF Wattisham Computer Club was kindly given permission to put on an interactive display for our guests, and as secretary of the computer club, I



was given the task of writing to various companies to ask for assistance. I chose ten public domain houses, nine commercial software companies and *Amiga Computing* as my point of contact.

Although I did not receive a reply from all the companies I wrote to, I would like to publicly thank the companies that helped us in our venture. The are: Goldstar Computers (EC) Ltd, Valley PD, Amiganuts, Senlac software, California PD, Activision, US Gold, Ocean and *Amiga Computing*. I would also like to give thanks to Bits and Bytes of Ipswich for the help they gave us.

Because of the excellent services of those mentioned above, the day was a great success, and I now know who the Computer Club, and I personally, will purchase from in the future.

Thanks to everyone concerned.

Dave Wallace, Ipswich

Glad that the computer industry could be of help and I hope that you seize the initiative to organise another event next year!

Mono sounds

Can you help with a sampler problem? I have been using a the Sound Master sampler for a few weeks and I'm having problems with many of the PD samples I've bought on compilation disks. Loads of them seem to play from only one speaker on my CM8833 monitor, even though the sampler is full stereo.

Is there something wrong with my sampler, or is it the Audio Master 3 software?

M Fitt, Colchester

The problem seems to be with your samples. A great many samples taken for use in games or MED tunes, and which appear on PD sample collections, are digitised in mono to save memory. When you load these into AM3, you should be given a choice of whether or not to convert them to stereo.

When the requester pops up, click on "Yes". The result won't be as good as if the sample had been originally intended as a stereo sample, but you can then at least save it out as stereo to play through both speakers.

Educational emulation

I have a twelve year old dyslexic nephew with a reading and writing age of nine years old. His doctor has recommended us a list of computer educational programs. However, all these programs are for the BBC B home computer.

Most of the programs that seem to help dyslexic people are good spelling programs/games. I would appreciate it very much if you could recommend any suitable educational programs – whether commercial or public domain – for the Amiga 500 which is the computer we have at home.

Patricia Earle, Northampton

Education is at last being taken seriously on the Amiga thanks to Commodore's "First Steps" initiative. Take a look at "Henrietta's Book of Spells" from Scetlander on 041-357 1659

Alternatively, you can run the software your doctor recommends by means of Genisoft's BBC Emulator for the Amiga. For more details on that contact HB Marketing on 0753 686000.

Random sample

One reader (ESP, October issue) wrote airing his views on sample copyright. Unfortunately he was a little misguided – the sample entitled "Funky Drummer" should be credited not to Sinead O'Connor but to James Brown as it was originally performed on his track.

Alex Harvey, Soberton Heath

Oh well, live and learn...

Starting with a tune

I wish to include a MED v3.00 tune in the startup sequence of my Workbench disk, but haven't a clue how it's done. Is it also possible to include a picture from Photon Paint?

Matthew Smith, Combe

To run a MED tune from your startup sequence, include the following line at whatever point you'd like the tune to start:

```
Run >nil: <nil: Medplayer {tune}
```

where {tune} is the directory path and name of the tune you'd like to play. The reason for all the run >nil: business is that if you launch a program from CLI, you have to make sure it "detaches" itself from the CLI and runs on its own.

If you didn't use the command Run >nil: <nil: your startup sequence would stop dead at the Medplayer line. Be warned, however, that Medplayer when launched entirely into the background is unstoppable. Your best bet would be to run it from a CLI once the disk has loaded, as you could then stop it by holding down Ctrl-C.

Photon Paint piccies, or any other IFF for that matter, can be displayed using a variety of PD viewer programs, among which the best are Vilbm and PPShow. Find one of these on a PD disk, then include the line:

```
Vilbm (or PPShow) {IFF}
```

in your startup sequence, where {IFF} is the name and path of the picture to be displayed. You will have to click a mouse button or press the spacebar to carry on once a picture is displayed in this way.

Smutty slip

After reading the comments on sexism in the PD scene (issue 40) I thought that you may want to know about an incident that happened to me not long ago.

It was when I was ordering a set of disks from a cer- ➤

tain PD group that a mistake must have been made. I was sent a copy of Utopia 3, a pornographic disk (my terrible handwriting was probably at fault) but I had not sent any declaration and I am only 16.

Please print my full address because I am starting up my own PD group called Mania PD and I do not distribute any pornographic disks.

If anyone is interested then write to me at 158 Marlborough Ave, Hull, Humberside, HU5 3JX with a cheque or postal order for £1 to get a catalogue disk with free PD software.

Howard Wickenden, Humberside

Consider yourself mentioned. Your experience just goes to show that porn in the PD will never be governed properly, no matter how hard people try.

If you are looking to start a PD library, it might be worth digging up the first issue of a magazine called *Shareware Shopper* where Sandra Sharkey, founder of the AMOS library, reveals her secrets.

Hakpaking

I would first of all like to congratulate you on a great magazine (a bit of a hefty price tag though) and secondly on the "Gamer Hakpak" as I can keep all of the cards together instead of wading through the magazine every time I need to look up a game cheat. I also like the idea of having the type of game down the edge of the cards, but I think they would be even better if they were spelt correctly like "Sports" and not "Sprots".

Liam Webster, Sheffield

Bah! There's no pleasing some people! You think "Sprots" is bad? My name was Eric Surf until the art editors got a hold of it.

More more more!

Could you please make your letters section much bigger? Also could you make the all-important Almanac section at least twice as big, with a lot more AMOS and Comms? Maybe you could cut out some games pages to make extra space...

Guido Ballara, New Zealand

Well Guido, I agree with you on the size of the letters area. If it gets much smaller it won't be worth me coming in every day!

I spoke to Jools about making *Gamer* smaller and he is on the next plane out to New Zealand to sort something out. I would lock the windows at night if I were you!

Ezra online

Ezra Surf can be contacted on a whole host of bulletin boards and conferencing systems. If you have anything to say, get it off your chest online!

Amiga Computing now also has its own Fidonet echo which is being carried by BBS systems up and down the country. Any Fido sysops interested in hooking up should contact 01 for Amiga to receive this echo.

Additionally our mailman with the most, Ezra Surf, hangs out on the following services:

Service	Account number
Prestel	999900263
Telecom Gold	74:MIK911
CiX	amigacomputing
CompuServe	70007,4734
The Direct Connection	uad1132
01 For Amiga	Amiga Computing

PD plea

As a relative newcomer to the Amiga, I was very interested to read your article on PD software in the June issue of your excellent magazine.

I have since bought several disks from the advertisers in your magazine and found them all interesting and certainly good value for money.

I have been told about some PD disks by Mikon Hakker which are supposed to be excellent. I have scoured the ads but have been unable to find any reference to this source. I wonder if you could point me in the right direction?

Colin Mercer, Bolton

I imagine around 20 PD libraries have just started frantically clambering through their catalogues to find some of the software you are after. I will let you know which library gets in touch first and pass on the details.

PD print

Please help – I have a number of PD game disks and wish to put the instructions into print. However, I keep getting "Can't open printer.device" when I try to use PPMore's "Print File" option.

As I am new to computing, could you please make the reply easy to understand.

V S Mills, Bloxwich

The problem with the disks you refer to is that they have been compiled without the Workbench files needed to print documents, namely the printer.device and parallel.device files from the DEVS directory, and a printer driver in the DEVS/Printers drawer.

To print your documents with the least hassle, delete some stuff from a copy of your Workbench disk – the utilities directory is a good place to start – then copy the documents across by dragging their icons to the new disk.

The Workbench disk will now have the doc files and the proper printing files, but will be lacking two important files – PPmore itself and PowerPacker.library. To copy these to your Workbench disk, use the two following CLI commands:

```
COPY PD-Disk:c/PPmore TO Workbench:c/
COPY PD-Disk:libs/PowerPacker.Library TO Workbench:libs/
```

where "PD-Disk" is the name of the disk you're trying to copy the docs from

An alternative to this procedure would be to buy PowerPacker Professional from Softville PD (0705 266509) and de-crunch the doc files. As they would then be standard Ascii text files, you could print them using a wordprocessor or by using the command

```
TYPE {docfile} TO PRT:
```

where {docfile} is the name and path.of the file to be output.

Game over?

I am hoping that you or one of your readers may be able to help me with a problem that I have in trying to locate a game that I like and want to purchase. I detest pirate copies which seem to be the only available sources.

The game is question is Galaxy 89 from Kingsoft and it is a clone of Galaxian. Although the game is no longer available in Australia, I'm hoping that it is available in Europe still as it was written over there.

Jeff Wilson, Australia

Over to you lot... can you put Jeff out of his misery? Write in and I will pass any information on.

Memory for words

I quite recently treated myself to an Amiga 500 and expanded it to 1Mb straight away. I could then play all the 1Mb games and I was pleased I had bought it. Now, however, I find myself in a dilemma.

While using DPaint III and Disney's Animation Studio, I don't have enough memory for the more advanced features. I was wondering if, because I don't have the four chip expansion and therefore can't fit one of those little megaboards, could I swap some or all of the 16 small capacity chips for some larger chips? Is this possible, and where can I buy the chips?

My second problem is that I have done some work in KindWords 2 and wanted to import it into ProPage v1.1. I tried this with all of the text formats on ProPage's list, but it still doesn't recognise the files. How can I make it understand, or should I just buy the copy of Pen Pal I was looking at the other day?

Matthew, W. Midlands

Try saving your KindWords documents as Ascii files. A normal KindWords document uses a file format supported only by Digita's Wordworth wordprocessor, but ProPage should have no problem with an Ascii file.

As for buying PenPal, don't bother. You've already got ProPage, so there's no point in buying a wordprocessor whose chief virtues are its DTP-like features. You'd be better off with Wordworth, as you could then load up all your old KindWords files using Wordworth's load format options.

Whatever you do, ditch KindWords. It's enough to drive a saint to drink. When I had a copy, I was so frustrated with it I resorted to my old Spectrum and a copy of Tasword.

Your memory expansion should be left as it is. Don't try to just swap your 256K drams for 1Mb chips – it won't work. If you need more memory, the best course of action would be to sell the old board and buy a 1.5Mb trapdoor board or a bolt-on expansion bus box. As it happens, we're doing a mini round-up of just such equipment in this issue.

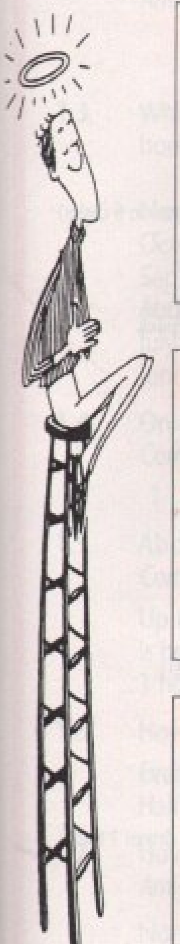
Write away!

Got something to say through the pages of *Amiga Computing ?*

Ezra Surf is our mailman, dedicated to sitting in a corner reading your letters and selecting the most interesting for publication.

Ezra's favourite letters now get rewarded with exclusive *Amiga Computing* designer T shirts.

Drop him a line at: **Ezra Surf's Postbag**, *Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP.*





STRiCTLY pd

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demos

D434 Black Adder II Samples
D422 Blind Date Demo
D319 Bloodsport
D443 Doctor Who Slideshow
D317 Evil Dead – Sight and Sound (2 Disks)
D410 Farts & Belches
D329 Girls Girls Girls
D314 Girls on Film X
D416 Gorgeous Models 2
D442 Gulf War Slides
D224 Horror Demo
D320 Horror Show X
D448 Mr Potato Head In The Chips Are Up
D316 Maria Whittaker Anim
D129 Maria Whittaker Slideshow
D313 Paradise Picture Show X
D436 PD Animations
D413 Perverse Slideshow
D415 Pretty Girls
D435 Rambo Slides
D432 Rowan Atkinson
D303 Saucy Postcards X
D328 Showering Girls X
D269 Simpsons Slideshow
D089 Star Trek Animation
D121 Star Trek Animation
D419 Star Trek Mega Demo (2 Disks-2 Drives (1Mb)
D112 Stealthy 2
D321 Strip Slot Machine X
D444 Terminator II Slideshow
D214 Twin Peaks
D445 Vic Reeves
D451 Virtual Worlds
D423 Walker v Amy Anim (1Mb)
D414 Warzone/Sickness Simulator (1Mb

utilities

U294 Adventure Solutions (2 disks)
U285 Agatron Utilities
U072 Agene (1 Meg) Family Tree
U063 Amigazer
U002 APDL 17 (Home Utils)
U003 APDL 28 (Home Utils)
U085 Art of virus killing
U071 Biorythms (1 Meg)
U227 Bootbench
U005 Bootblock Champion
U054 Business Card-Maker
U007 C Manual (3 disks)
U079 CAD V
U069 Cartoon Brushes
U073 C/Light
U076 Catalogue Creator (2 disks)
U289 Communications Disk
U049 Countach Art Collection (3 disks)
U292 Database Master
U231 Digitised sample player
U235 Direct Action
U056 DTP clip art (2 disks)
U042 Education 1: German
U273 Emulators Galore
U089 Flexibase v2.0
U241 Fonts/Logos
U218 Fractal Scape
U051 Future Composer
U283 Garfield Clipart
U264 Ghost Writer
U215 Graphic Utils (2 disks)
U282 Hall Compact Cooker, Goldfish Vol 1-3
U006 Home Business Pack: W/Processor, Spreadsheet, Database
U062 Iconmania
U233 Icons
U014 Intromaker
U096 Label Printer
U230 Mac clip art
U017 Mandel mountains
U066 Mandelbrot Explorer
U222 Mandelbrot Generator
U212 Med v3.0
U050 Messy Dos

99p

M308 Alice Cooper/Star Trek
M105 Another day in paradise
M309 Beatles (2 disks - 2 drives)
M092 Betty Boo
M200 Bomb the Bass
M149 Don't miss the party line
M306 Erasure Mix
M203 Eurythmics
M015 Genesis
M096 Groove Is In The Heart
M301 Guns & Roses
M098 Hear the Drummer
M310 Joe Le Taxi
M042 Kim Wilde
M100 London Beat

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U216 Noise Player v3.0
U058 North C
U019 Pagesetter clip art
U237 Professional DemoMaker
U217 QED text editor
U295 Quickbench
U081 Rabid Rita's utilities
U209 Red Sector DemoMaker
U025 Sid v1.6
U070 Slideshow Maker
U288 Spanish Tutor
U221 Spectrapaint
U084 Speech Toy
U263 Talking Colouring Book
U038 Text Plus
U265 The Ultimate Disk Creator
U087 Virus Killer TV Graffix (2 Disks)
U094 Uedit
U284 Viz Clipart
U082 Voices
U266 Wordwright
U061 Workbench Fun

music

M033 8-channel soundtracker
M061 808 State remixes

99p

M303 Madonna Rescue Me
M097 Madonna Vogue (4 disks)
M304 Me Hammer Cant touch this
M018 Miami Vice Remix
M302 Money for Nothing
M259 Pet Shop Boys (2 disks)
M307 Poison Sample
M258 Popstar Selection
M091 Queen Flash (2 disks)
M102 Sydney Youngblood
M094 Technotronic
M124 The Power remix (1 Meg)
M031 The Wall
M097 Vogue (4 disks)
M032 Walk this way
M123 What Time is Love

games

G058 2-player Soccer League
G320 Assins Games 2
G319 Assins Games 1
G278 Air Ace II
G102 Airwar
G082 Antep (1 Meg)
G073 Autobahn 3000
G205 Back to the Future
G079 Ballrun
G275 Battle Pong
G039 Breakout
G202 Castle of Doom
G077 Cave Runner
G288 Chainsaw Death
G006 Collosus
G312 Destination Moonbase
G008 Eatmine
G069 Escape from Jovi
G051 Frantic Freddie
G218 Games Disk 8
G012 Gravattack
G052 Jeopardy (1Meg)
G206 Killing Game Show
G266 Lady Bug
G307 Leading Larry
G318 Llamatron
G066 Learn and Play 1
G067 Learn and Play 2
G059 Marathon Mine
G057 Marble Slide
G055 Mayhem
G052 Mchforce
G276 Megaball
G300 Megagames (32 games on 6 disks) Games Galore vols. 1-7
G017 Megagames (2 disks)
G215 Megagames (4 disks)
G270 Mental Image Gamepack
G311 Midnight Thief
G040 Monopoly
G204 Murder
G019 Pacman
G103 Peters Quest
G208 Plotting
G500 Pool (+)
G305 Popeye Game
G086 Property Market
G023 Pseudo Cop
G065 Quizmaster
G084 Rings of Zon (1 Meg)
G321 Scum Haters
G070 SEUCK game
G292 Sealance
G217 Shapes
G060 Snakepit
G220 Star Trek (3 disks, 2 drives 1 meg)
G211 Stone Age
G310 Survivor
G085 The JAR (1 Meg)
G279 The Simpsons
G053 Treasure Hunt
G041 Trek Trivia
G273 Truckin' On (2 disks)
G064 US Star Trek (2 disks, 1 meg)
G029 Wanderer
G268 Wheel of Fortune
G272 Wizzy's Quest
G314 Wondersoft Games Pack
G209 Yelp

...and many more

We have over 1000 disks to choose from. Why not order our catalogue disk (price £1), which includes a free game, virus killer and CLI help-file

Fred fish 1-550
T-Bag 1-54

AMIGA COMPUTING READER SURVEY

Its time to tell us what you think of Amiga Computing. We are asking you the reader to tell us what you think we should be doing with your magazine. Your views, criticisms comments and praise will help us shape the magazine to meet your needs. And in return for your cooperation you can win one of six £50 tokens to spend on whatever software you want at Silica Systems, one the UK's largest Amiga dealers. Hardware, software, serious or games – the choice is yours. Just complete the reader survey (photocopies accepted) and return to the address below by 7 December. Your name will be entered into the prize draw and you could be one of our three lucky winners.

The Marketing Manager, Amiga Computing,
Annual Reader Survey, Europa House,
Adlington Park, Macclesfield SK10 4NP

SECTION ONE: About the magazine

1.1 Where do you obtain your copy of *Amiga Computing* ?

Newsagent ☐ 1 Home delivery from a newsagent ☐ 2
Supermarket ☐ 3 Subscription ☐ 4

1.2 Do you ever experience any difficulties in obtaining your copy of *Amiga Computing* ?

YES ☐ 5 NO ☐ 6

1.3 Which, if any, of the last six issues of *Amiga Computing* have you bought or read ?

	(1) Read	(2) Bought
November '91 – Chart Show cover	☐	☐ 7
October '91 – Pirate	☐	☐ 8
September '91 – Spitting Image	☐	☐ 9
August '91 – Multimedia	☐	☐ 10
July '91 – Flight simulations	☐	☐ 11
June '91 – Piggy bank	☐	☐ 12

1.4 On average, how many times do you pick up your copy of *Amiga Computing* in any one month ? Please ring below.

1 2 3 4 5 6 7 8 9 10 or more. 13

1.5 About how long do you spend reading an issue of *Amiga Computing*?

Up to ½ hour ☐ 14 1½ hours up to 2 hours ☐ 15
½ hour up to 1 hour ☐ 16 2 hours up to 3 hours ☐ 17
1 hour up to 1½ hours ☐ 18 3 hours or more ☐ 19

1.6 How much of *Amiga Computing* do you regularly read ?

Everything ☐ 20 Roughly half ☐ 21
Half or more ☐ 22 Very little ☐ 23

1.7 How many people, apart from you, read or look at your copy of *Amiga Computing* ?

None ☐ 24 One ☐ 25 Two ☐ 26
Three ☐ 27 Four ☐ 28 Four or more ☐ 29

1.8 What do you like most about *Amiga Computing* ?

....

....

....

1.9 What do you dislike about AMIGA COMPUTING ?

....

....

....

1.10 Which has been your favourite issue to date ?

....

Why ? ....

....

....

....

1.11 Which, if any, of the following newspapers do you read regularly ? (This means at least two editions a week)

The Times ☐ 30 The Sun ☐ 31
The Daily Telegraph ☐ 32 The Daily Mirror ☐ 33
The Guardian ☐ 34 The Daily Star ☐ 35
The Independant ☐ 36 Today ☐ 37
The Financial Times ☐ 38 The Daily Mail ☐ 39
None ☐ 40 The Daily Express ☐ 41
Other (please specify) ☐ 42 ....

1.12 Which, if any, of the following magazines do you read regularly ? (This means at least three out of four issues)

Amiga Action ☐ 43 Amiga Computing ☐ 44
Amiga Power ☐ 45 Amiga Fun ☐ 46
The One Amiga ☐ 47 Zero ☐ 48
Computer & Video Games ☐ 49 Ace ☐ 50
Amiga Format ☐ 51 Amiga User International ☐ 52
Amiga Shopper ☐ 53 CU Amiga ☐ 54
Computer Shopper ☐ 55 Games-X ☐ 56
Other (please specify) ☐ 57

1.13 To what extent do the following elements influence your choice of magazine ?

	A great dea (1)	Slightly (2)	Not at all (3)
58 Front cover	☐	☐	☐
59 Coverlines	☐	☐	☐
60 Cover illustration	☐	☐	☐
61 Single cover disk	☐	☐	☐
62 Double cover disk	☐	☐	☐
63 Free supplement	☐	☐	☐
64 Other cover gift	☐	☐	☐
65 Gamer HakPak	☐	☐	☐

1.14 Do you consider *Amiga Computing* to be good value for money ?

Yes 66 ☐ No 67 ☐ Sometimes 68 ☐

1.15 Do you purchase *Amiga Computing* for:

The coverdisk only ☐ 69
Mostly for the coverdisk, but also for the magazine ☐ 70
For both the coverdisk and the magazine equally ☐ 71
Mostly for the magazine, but also for the coverdisk ☐ 72
The magazine only ☐ 73

1.16 Do you believe that a magazine with two cover disks offers greater value for money than a similar magazine with one cover disk ?

Yes, even if a double disk magazine is up to £1 more expensive ☐ 74
Yes, even if a double disk magazine is up to 75p more expensive ☐ 75
Yes, even if a double disk magazine is up to 50p more expensive ☐ 76
Only if the price remains the same ☐ 77
No ☐ 78

1.17 Please rate the following editorial items from Almanac in order of interest, one to eight – one – least interest, eight – most interest.

Multimedia ☐ 79 DTV ☐ 80 Machine code ☐ 81
Music ☐ 82 Comms ☐ 83 AMOS ☐ 84
Code Clinic ☐ 85 DTP ☐ 86
I am not interested in any of the above ☐ 87

1.18 Do you buy shareware or public domain software Yes ☐ 88 No ☐ 89

SECTION TWO: Your Computer

2.1 Which of the following do you have regular access to ?

Machine	One floppy	Two floppies	Floppy & hard disk	512k	1Mb	Over 1Mb
A500 ☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
1500 ☐ 8	☐ 9	☐ 10	☐ 11	☐ 12	☐ 13	☐ 14
2000 ☐ 15	☐ 16	☐ 17	☐ 18			☐ 19
3000 ☐ 20	☐ 21	☐ 22	☐ 23			☐ 24
CDTV ☐ 25						

2.2 Which of the following types of games do you find interesting ?

Action ☐ 26 Puzzle ☐ 27 Adventure ☐ 28
Other ☐ 29 War/strategy ☐ 30 None ☐ 31
Role playing ☐ 32

2.3 How far is your choice of software and peripherals influenced by *Amiga Computing* ?

A great deal ☐ 33 A little ☐ 34 Not at all ☐ 35

2.4 How much do you spend on software per month ?

Under £10 ☐ 36 Between £10-£15 ☐ 37
Between £16-£30 ☐ 38 Between £31-£40 ☐ 39
Between £41-£50 ☐ 40 £51 or over ☐ 41

2.5 How regularly do you purchase new games ?

Less than one a month ☐ 42 One a month ☐ 43
two - three a month ☐ 44 three - five a month ☐ 45
More than five a month ☐ 46 Don't buy games ☐ 47

2.6 How much time do you spend on your computer per day ?

Less than one hour ☐ 48 Up to two hours ☐ 49
Up to three hours ☐ 50 Up to four hours ☐ 51
Up to five hours ☐ 52 Five hours or more ☐ 53

2.7 How long have you had your current computer ?

Less than one year ☐ 54 Up to two years ☐ 55
Up to three years ☐ 56 3 years or more ☐ 57

2.8 Is this your first computer ? 58 YES ☐ (1) NO ☐ (2)
If no, please state which one you owned before

....

2.9 Do you intend to buy a new computer in the next 12 months ? 59
YES ☐ (1) NO ☐ (2)
If yes, please state which one

....

SECTION THREE : About you

3.1 Are you 1 MALE ☐ (1) FEMALE ☐ (2)

3.2 Your age:

Under 11 ☐ 2 11 - 13 ☐ 3 14 - 15 ☐ 4
16 - 17 ☐ 5 18 - 19 ☐ 6 20 - 21 ☐ 7
22 - 23 ☐ 8 24 - 25 ☐ 9 26 - 34 ☐ 10
35 - 44 ☐ 11 45 - 54 ☐ 12 55 - 64 ☐ 13
65 plus ☐ 14

3.3 Are you

Employed full-time ☐ 15 Employed part-time ☐ 16
Self-employed ☐ 17 Student ☐ 18
Unemployed ☐ 19 Other, please specify ☐ 20

....

3.4 Please state the nature of you business (if applicable)

....

....

3.5 What is your position or job title within this business? (if applicable)

....

....

3.6 What is your annual income before tax and other deductions ?

Below £5,000 ☐ 21 £5,000 - £9,999 ☐ 22
£10,000 - £14,999 ☐ 23 £15,000 - £19,999 ☐ 24
£20,000 - £29,000 ☐ 25 £30,000 - £39,000 ☐ 26
£40,000 - £49,000 ☐ 27 Over £50,000 ☐ 28

3.7 Which ITV station do receive in your area ? Please state the predominant station.

TVS ☐ 29 TSW ☐ 30 LWT/Thames ☐ 31
Anglia ☐ 32 Central ☐ 33 HTV ☐ 34
Granada ☐ 35 Yorkshire ☐ 36 Tyne Tees ☐ 37
Border ☐ 38 STV ☐ 39 Grampian ☐ 40
Ulster ☐ 41 Channel ☐ 42 RTE ☐ 43

3.8 Please state which exhibitions you have attended over the past year.

....

....

3.9 (Optional)

Your name ....

Address ....

....

Post Code........................Telephone..

SECTION FOUR : About you

4.1 How much influence did the Amiga Gamer supplement have on your decision to purchase this copy of Amiga Computing?

A great deal ☐ 1 A moderate amount ☐ 2
A small amount ☐ 3 None at all ☐ 4

4.2 Would you like us to devote more pages to Gamer? Yes ☐ 5 No ☐ 6

4.3 Do the games reviews in Gamer influence your decision when buying games software? Yes ☐ 7 No ☐ 8

4.4 How does the content of Amiga Gamer compare with the following magazines' games sections?

	Better (1)	Same (2)	Worse (3)	Don't get it (4)
9 Amiga Action	☐	☐	☐	☐
10 Amiga Format	☐	☐	☐	☐
11 CU Amiga	☐	☐	☐	☐
12 The One Amiga	☐	☐	☐	☐
13 Amiga User Int	☐	☐	☐	☐
14 Amiga Fun	☐	☐	☐	☐

4.5 What improvements would you like to see in Gamer?

....

....

SECTION 5: Readers' Panel

We are forming a Panel comprising 50 readers of Amiga Computing who between them represent every kind of reader

Members of the panel will receive the magazine FREE by post for at least three months.

Panel members will be asked to read AC thoroughly and use the coverdisk.

We will rely on Panel members to provide us with their detailed views on each issue of AC. We will also ask for members' ideas on what they would like to see in future issues.

Are you interested in joining the Panel? Yes ☐ 15 No ☐ 16

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The main console screen in all its glory but it's the pull downs that hold all the surprises

P-P-Passing the Audition 4 S-S-sampling

Paul Austin gives some sound advice on the latest sample editing software on the Amiga

For longer than most of us would care to remember there's been only one real choice if you're serious about Amiga sampling. AudioMaster was and still is the system to beat and as a result its competitors have been left desperately trying to emulate the master.

Up until now none of them have really come close, but at last AudioMaster has been bettered by what is a shameless wanna-be entitled Audition 4. It has not only emulated the original but has also managed to incorporate a whole range of new and very impressive improvements.

The interface

Anyone who's used AudioMaster will feel right at home with Audition 4 as it opens with an almost identical front end. It's only when you open a few pull downs that the real difference starts to show. Many of the the added display functions are definable from the pull downs or hot keys. As a result a huge array of combinations are selectable and of course Save-able.

These off/on defaults cover the following commands: OK requesters, Low-pass filter, Line position, Oscilloscope, Level display and Cursor control.

The optional OK requester is aimed primarily at expert users who soon become totally sick with the necessity to confirm every request.

The lo-pass filter simply locks a pre-defined low level signal filter on to both the samples in memory and indeed those which are played from disk.

The line position simply displays the present time position within the sample as it plays. This can be essential if you're looking for a specific point within larger samples. The oscilloscope is a more obvious feature as it displays the sample in real time in both mono and stereo modes.

Just like the oscilloscope, the level display shows the sample in real time using tape deck style LED meters which show the sample's volume as pulses. This is ideal if you're trying to avoid clipping and has the added bonus of being a good deal smaller than the oscilloscope, if perhaps a little less accurate.

The final option is to remove or display the cursor which shows your present cursor position within the sample window. Why you'd want to is another question but the option is there if you need it.

Along with these designer screen controls comes the usual array of AudioMaster functions such as hi-fi play, stereo to mono, screen colours and of course a number of sampler options which surprise, surprise include both of the Perfect Sound samplers, Aegis's SoundMaster and an option to use unlisted generic samplers.

The rather limited choice is perhaps the software's only real failing when compared with AudioMaster, but having said that the actual sample quality appears to be identical when tested with SoundMaster and the generic option does seem to do a good job with unlisted units.

The remaining options allow you to listen whilst sampling and also close the Workbench screen in order to save some valuable chip memory.

The next pull down reveals the sample adjustment controls which consist of Smooth, Centralise, Maximise, Lift Bass and Lift Treble.

Most of the above the probably don't need lengthy explanations but a brief rundown could be handy so here we go. All of the above act on ranged sample data which is selected by a simple clicking and dragging of the trusty rodent.

Smooth and Maximise do exactly what they suggest, softening and expanding the signal to the full whilst still avoiding distortion. Centralise simply moves the sample to the optimum position on the default frequency. Lift Bass and Lift Treble add a little sparkle or punch to the signal by pre-defined amounts.

All change

After the selectable effects come the blanket edit commands which apply their powers to the entire signal whether it be mono or stereo. The first and perhaps strangest of these is Invert. This command allows you to turn a sample on its x-axis thereby turning a peak into a depression.

Apart from making some very silly noises it can have a serious use. Occasionally inverting a sample may remove clicks if, for example, you're trying to join two pulse or sine-like sounds together. This is done by flipping one sample in order to make a better and smoother join with the next.

Reversing the sample is its next talent and a must for anyone who fancies a 70s progressive rock revival. The pro- ➤

Riding the range

All of the editing commands on the following page deal with effects and their application, the next selection is where all the serious hack and slash happens.

All these commands relate to the ranged areas within the Edit window. A ranged area is simply a marked section of the sample which is selected with a simple click and drag or alternatively from the Range All command on the main console.

Once a range is specified it can have all manner of edits applied varying from simple deletion to being saved direct to disk. Cutting, pasting, copying – the choice is endless.

Four of the most interesting range commands are as follows. Zero range will delete all data within that range and replace it with a zero signal or silence – a useful trick if you want to clean up a little between sample events.

Next is the Overwrite option which copies the buffer sound into the range at any point within the Edit window erasing the previous data but without lengthening the entire sample . Cut to buffer does exactly as the name suggest and lifts a particular section and stores it safely in the buffer or direct to disk.

Insert adds the contents of the buffer at a set point without erasing the data either side of the insert. Finally there's the indispensable add workspace which can be added in either one, five, or ten second sections. An absolute must if you want to add effects like echo or delay.

cess can be applied to both range or buffer samples so with a bit of patience and half an ounce of designer Old Holborn you'll be well away...

The remaining control options allow you to switch left and right channels within a stereo sample in either the Edit window or buffer samples. The final command allows you to exchange the buffer and edit samples completely.

Most of the afore-mentioned commands have their own hot key commands ready and waiting, so the experts will soon feel at home.

Project options

After an almost endless sea of commands we're at last into the final pull down. Like many packages Audition can't miss the opportunity for a shameless plug for the author followed by an even more blatant bit of marketing for the Perfect Sound sampler which just happens to be from the same stable.

After the advertising comes the serious stuff, which starts with the tri-format Load function. This allows you to either load to the Edit window, Buffer, or alternatively scan chip or fast memory for samples which may have been left by your favourite software after the last warm reboot.

Predictably enough, Save is the next option and can store samples from the either the Buffer, Edit window or ranged areas within the window. On top of the location option comes the format controls which allow you save your creation as Raw, Compressed or Executable files.

The final standard Save command allows you to store the software configuration itself, so you'll always be greeted with your favourite colours and controls on boot up.

Soundtracker and Med fans also have their day thanks to the opportunity of saving in either Sonix or IFF instrument formats in anything from one to five octaves.

The next treat is the excellent play file option which allows you to hear any file direct from disk without the need to load the sample into the software. A must if you tend to forget what's lurking within a filename.

Delete, Print and Quit are all that remains and as you might expect Delete can be applied to either the Edit window, Buffer or range.

And finally...

As you've noticed I'm impressed, and anyone who's into serious sampling can't fail to feel the same, so if you're in the market for an upgrade, Audition is the only serious choice for AudioMaster fans.

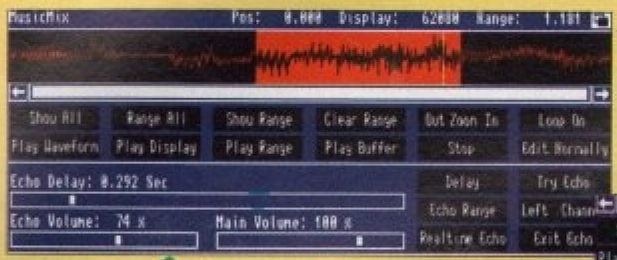
After hours of ardent twiddling I can only think of one moan, the lack of an undo last edit command, which if available would add the only missing talent to a near perfect package.

Editing options

Apart from the ability to import samples, perhaps Audition's main talent is editing. It does this with an unsurpassed selection of pop-up edit screens which all follow a standard format that allows you not only to perform the required edit but also preview the result before it is applied to the sample.

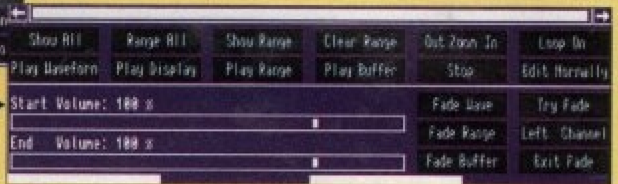
The Mix screen gives you the option to adjust the balance between the buffer sample and the edit sample using standard sliders or alternatively via the excellent click and drag mix box which splits the volume diagonal allowing you to mix the two sounds by simply placing the dot in a suitable spot. ►

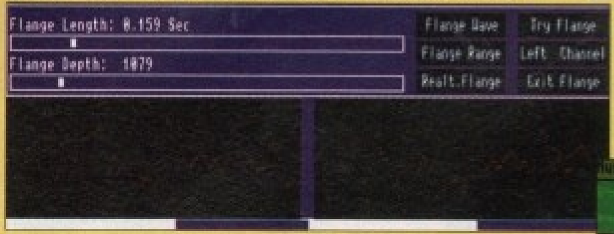




◄ Echo allows you to define either echo or delay, both of which can be allocated definable depth and repeat times. All the signal processing options such as Echo, Delay, and Flange can also be applied to live input such as a microphone for instant karaoke – what a horrifying prospect...

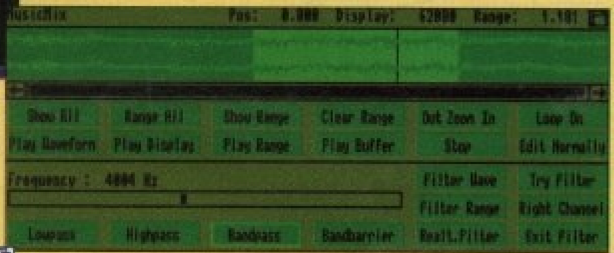
Fade again can be applied in variable degrees and when combined with the backwards option can produce perfect graduated intros or fades in both or separate channels. ►





◄ Flange is an old favourite of sampling software, but be warned it can be a blessing or a nightmare if applied carelessly. A function that really benefits from Audition's option to try before you apply.

Filters are almost an essential especially if you're working with rather dodgy source sounds which may benefit from the removal of the odd frequency or two. Four formats are available all of which can be tweaked with the aid of the frequency slider. ►





◄ Sampler control is an obvious essential for any sampling software and as a result Audition is well versed in all the essentials plus having the ability to mix incoming source with pre-sampled sounds. Also, each channel of the stereo signal can be sampled individually and mixed live.

All edits can be applied to either the mono or stereo samples with each channel being edited independently if necessary. A definable sample trigger is also on hand plus the option to adjust input and start volumes to suit the idiosyncrasies of your sampler. The ever present monitor option is also available along with the ability to record to disk and of course define the sample rate, which can go right up to the lofty heights of 56,000 samples per second.

Perhaps the most powerful attribute of the original AudioMaster is its ability to sequence the playing of samples themselves. With this talent entire songs can be sampled in as various sections, joined and then played in sequence when and as often as required – the product being a complete song from just a few simple components. Not to be outdone, Audition has its very own sequencer which like most of the software is almost identical to AudioMaster with the odd whistle and bell thrown in for good measure. ►

All the sequencing essentials are on hand with the usual array or marker selection, add and delete, and of course du-du-duplicate. Usually a section is selected with the mouse but more accuracy is possible by employing the optional markers.

When all the edits are complete the sequence can be scrolled with the excellent sequence slider which automatically leaps from section to section as you stroll through your creation in search for that elusive element that isn't quite right.

Once the dodgy edit is found it can be can be expanded or contracted using the Zero buttons which automatically search both the beginning and end of the section for the optimum point to make the edit.



Anyone serious about sampling will soon find the option to retune samples an essential and here again Audition does well by offering the ability to retune over five octaves and of course to the exact note of you choice. A handy definable tuning tone has been added plus the ability to adjust the left and right volumes independently. ▼



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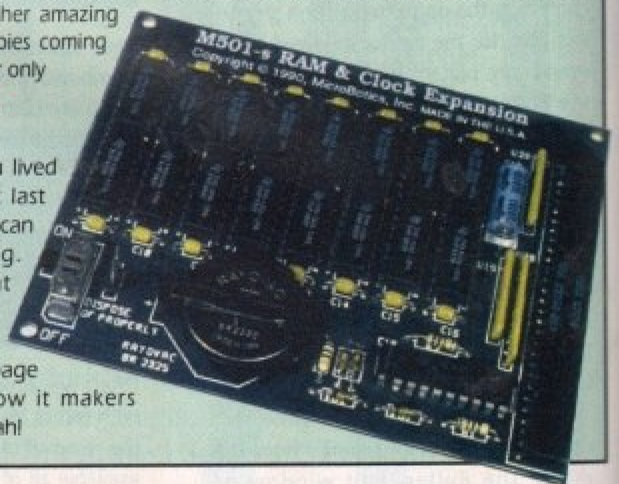
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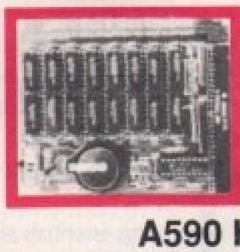
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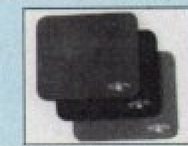
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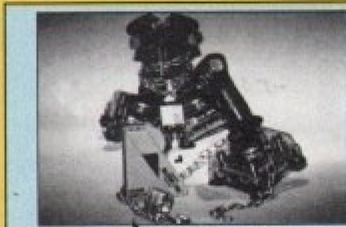
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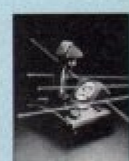
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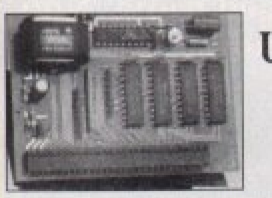


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Access

Well connected

Stewart C. Russell offers few suggestions on choosing and using equipment

Amiga modem cabling causes problems. For reasons best known to themselves, the Amiga hardware designers decided to fill up the unused pins of the 25-way serial connector with non-standard features.

Thus a generic RS-232C cable with all 25 lines connected straight through may cause problems, especially with an A1000 which has five volt power lines in all the wrong places. You can buy Amiga serial cables, but make very sure that the dealer knows what type of computer and modem you have.

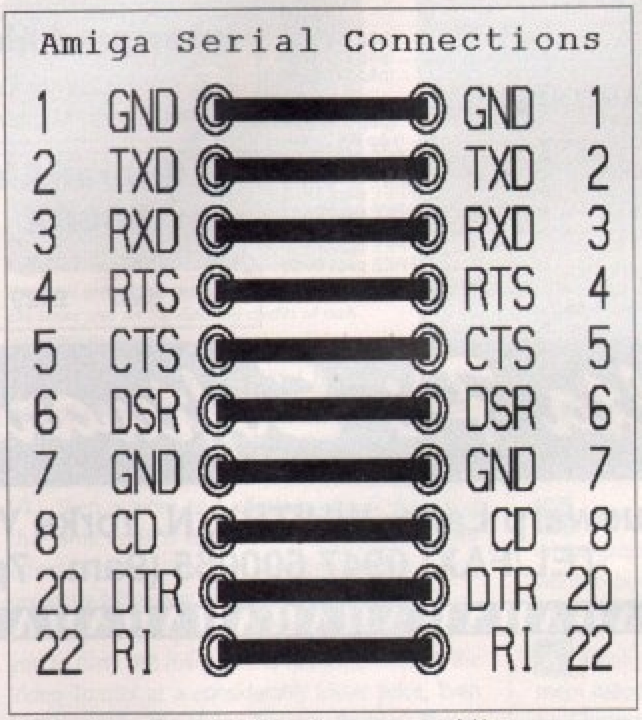
If you know which end of a soldering iron to hold, building your own cable is extremely simple. You'll need a 25-way plug, a 25-way socket, hoods for both, and about six feet of shielded cable with at least 10 lines. As you can see from the diagram, there's not a very complex wiring arrangement – all 10 connections are made straight through.

I built a cable identical to this for my first 300 baud manual modem. It's still giving exquisite error-free service running at sixty four times that speed, feeding a Miracom Courier DS.

The squeaky box

This is the difficult bit to make recommendations about. There are so many different modems, all able to speak the basic Hayes command set. It's the slight variations that cause the problems, so read the manual. If you bought the modem second-hand without a manual, beg, borrow or steal one. If you got no manual, and no demonstration of the modem working, you didn't get a bargain, no matter what price you paid.

If you have your setup configured well enough to get an "OK" returned from entering "AT" at the terminal, you should be able to make a connection to a BBS. Due to the wonders of standardisation, a surprising amount of software and hardware configurations will work straight out of the box. Only minor tweaks will be required, and the manual of your comms software should tell you how to get most popular modems running well.



You'll need to make sure that all these lines are connected. More or less connections will cause problems

The telephone line forms the largest part of the link, and you have very little control over it. If you share a modem line with other phone extensions, make sure that you do not have too many devices plugged in.

The total REN of all the equipment connected in a domestic setup should not exceed four – more can cause strange effects such as ringing phones when dialling out.

Always make sure that the rest of the household knows that you are using the modem, for someone unwittingly picking up another extension will disconnect you from the remote system. Use the Z- Modem Resume protocol if your software supports it, since it can take up where an interrupted file transfer left off.

The other end

If you get a carrier tone from the remote system, but fail to connect or get the carrier dropped (a CONNECT message, then immediately NO CARRIER) suspect the compatibility of the two modems. If no CONNECT message is issued, you might be trying a speed that the remote modem doesn't support.

If a connection is made, then dropped, maybe one of the modems is getting confused by error correcting protocols. I had a modem which exhibited both these problems, and it caused no end of heartache.

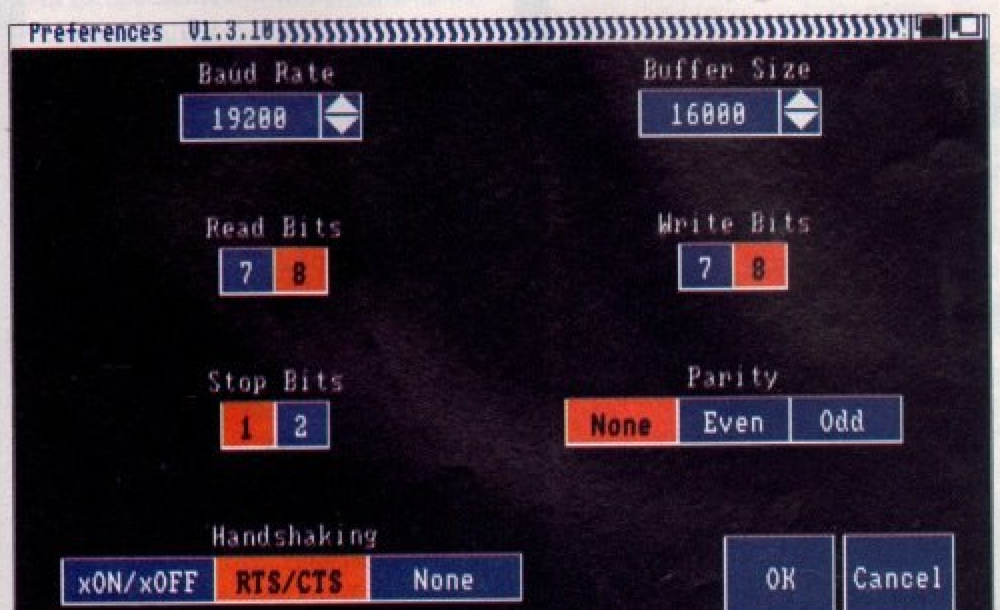
The comms software you use is pretty irrelevant to making connections. Any software, correctly set up, will give you an equally good chance of connection. Since all the signal detection is built into the modem, the best terminal software can only echo back data from the modem, and send data in accordance to the user's wishes.

If your modem supports RTS/CTS (Request/Clear to Send) or hardware handshaking, use it. Handshaking allows one side of a connection to tell the other side to stop transmission to allow the other end to catch up. It is essential for any connection where the line speed is less than the computer to modem speed, as would happen with MNP Level 5 or v42bis data compression.

Some packages such as NComm (up to v1.92) require RTS/CTS to be set from Preferences. The current version of NComm (1.921) does not suffer from this restriction, and has all the bugs from 1.92 cleaned up. This update will be at every worthwhile bulletin board by the time you read this.

One last hint before I go: read all the manuals completely through before giving up. You should glean enough information from them to make some kind of a connection to a bulletin board. Start asking around for answers there, and you will soon be getting the best out of your equipment.

Stewart C. Russell can be contacted on CIX as "scruss" or via Fidonet as Stewart Russell at 2:259/2 (Scottish Opus).



How your serial Preferences should look. Adjust the baud rate figure to the maximum your modem can handle

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Questions, please

Jason Holborn answers some of the more commonly asked questions about desktop video on the Amiga

Q *Is it possible for me to incorporate sound effects and music into my video productions?*

A If you're not interested in syncronising sound and vision perfectly, then adding music and sound effects to your video productions is very easy indeed. All you need is an audio mixer like the one sold by Omega Projects (0925 762885).

Simply by connecting the audio output from your source video to the mixer, you can then add in and dynamically control the levels of up to three sound sources. Most audio mixers have independent controls for all the sound inputs plus a master control for the mixed signal. This mixed signal is then fed into the back of your destination video deck.

For more professional uses, you'll need to invest in a SMPTE time code generator and a video deck that accepts SMPTE time code. Designed specifically for mixing video and audio, SMPTE allows you to lock both video and audio sources together at single frame accuracy.

Most professional video and music products do support SMPTE (Music-X and ShowMaker, for example), but SMPTE has one major disadvantage – it's bloomin' expensive! The time code generators themselves aren't that expensive, but a SMPTE-compatible video deck will set you back several thousand pounds.

A better bet is to use a program like Music-X to sequence together Midi-generated music and sampled effects and then set up a Music-X keymap to trigger the music and samples as and when they are needed. This requires you to take full control over when the samples and music are triggered. Unfortunately, this can often result in timing problems.

Q *Is it possible to use my Amiga to actually manipulate the video images themselves? For example, I'd like to be able to re-colour certain sections of the screen.*

A Yes, it is possible but it's going to cost you a lot of money. What you need is a piece of equipment called a Video Effects Processor. Currently there are very few VEP systems available for the Amiga, especially the A500. However, if you can wait for the arrival of a PAL version of NewTek's Video Toaster, then you'll have access to probably one of the most capable video processor units available. Built in to the Video Toaster is a ChromaFX system that allows you to adjust the brightness, contrast and colour of live video footage.

The Video Toaster's ChromaFX system allows you to carry out a wide range of video effects such as posterisation, image inversion and colour vignettes. You can process your video to look like old film with sepia toning or high contrast black and white.

Other effects include the ability to mix black and white and colour images together and more subtle effects such as dark sky filters, nuke, chrome, snow lights, snow cycle and a lot more besides. What's more, the Video Toaster allows you to create your own video effects with an almost limitless combination of built in and user-defined effects.



DPaint is great for creating spinning logos like those seen on the opening credits of such programs as Wogan

If you can't quite stretch to the cost of a Video Toaster (expect it to retail for around £1500 in the UK), then a more cost effective way of achieving the same ends is to use a video digitiser-based effects system like Elan Design's Invision Plus (expect a full review next month!).

This powerful effects system on a card allows you to carry out many of the effects offered by the Video Toaster at a considerably lower price. Even better, unlike the Video Toaster, Invision Plus is available now from HB Marketing (0763 686000). Invision won't allow you to manipulate the actual video signal, however – all it does is grab the signal as an Amiga image and carry out effects on it.

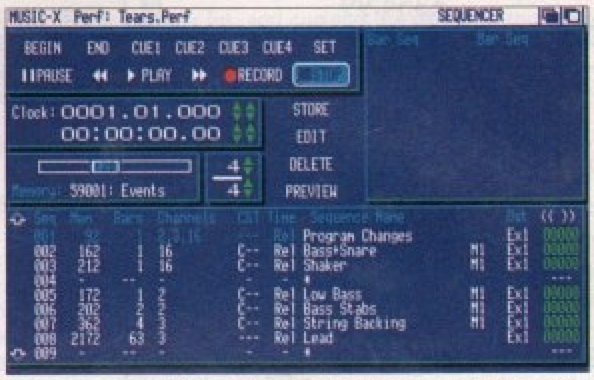
Even a fairly basic colour video digitiser can be used, although you'll have to create the effects offline and then pull together the individual frames in something like DPaint to create an animation file. Most video software does support time coded animations (ShowMaker is about the best), so actually incorporating these animations is a fairly simple task. Unfortunately, like Invision, you don't get full video resolution.

Q *I own a genlock and two VHS video decks, but the quality I get on the final videotape is inferior to the quality that I see on my Amiga monitor. What am I doing wrong?*

A Because of the nature of the analogue composite video signal, it's inevitable that you'll lose something in image quality. Unless you invest in a pair of decent SuperVHS decks and a SuperVHS genlock, there's little you can do to obtain truly professional results.

However, one thing that you can do is to invest in a PAL Encoder like the one sold by Third Coast Technologies (0257 472444). Selling for just £130, Third Coast's PAL Encoder really does make a difference. If you use a pair of decent video decks and first generation videotape, you can often get results almost identical to the image you see on your Amiga monitor.

I use a PAL encoder myself and I must admit that, having used it for over six months now, I just couldn't live without it. Try it for yourself – I'm sure you too will eventually feel the same.



Music-X is about the best program you can buy for adding both music and sampled sound effects to your video productions. What's more, it also supports SMPTE, so it's as useful to the pros as it is to the greenest of beginners

Q *Although my genlock allows me to overlay Amiga graphics on top of a composite video source, I want to be able to put the Amiga's graphics behind the video source. Is this possible?*

A Absolutely. What you need is a peice of equipment called a Chromakey. Up until quite recently, no Chromakeys were available for the Amiga, but several US manufacturers have since come up with the goods. One of the best is the Video Blender from Progressive Peripherals and Software. This powerful device not only includes a Chromakey option, but it also boasts full fading and mixing controls, keyed picture-in-picture, a broadcast quality genlock, custom wipes and a lot more besides.

Despite the fact that a PAL version has been available for a few months now, it still hasn't been released in this country. However, it is believed that Marcam Ltd – the people who market the Rendale range of genlocks – intend to distribute it in this country so give them a bell on 081-941 6117 to find out more.

Q *I already own a video titling package, but I want to be able to create the kind of spinning logos you see on programs like Top of the Pops and Wogan. Can I do this on my Amiga?*

A There are a number of 3D video titling packages available, but to be honest, you won't really go far wrong with a copy of Deluxe Paint 3. With its powerful animation facilities and 3D perspective tools, DPaint is the bees knees when it comes to creating the kind of effects you refer to.

I use DPaint extensively for just this kind of thing. It's not perfect, however. For starters, DPaint is primarily a 2D paint package, so there's no way you can create extruded 3D titles. If you want to be able to create "true" 3D titles, then your best bet is to get your hands on a package like Sculpt 3D or VideoScape 3D and create the titles within that. Unfortunately, both these packages require a lot of patience, so don't think you're going to get instant results.

Registered users

Margaret Stanger gets serious with registers

There is not room on this page for a detailed description of all custom chip registers and how they function, but I can show you how to get a simple Copper list to work.

The various custom chip registers occupy 512 bytes. All registers are two bytes wide and on even addresses. The base address of the register area is at $DFF00, the effective address of a register is $DFF000 + register address. The external reference, XREF_custom, will allow you to use the base address of the register area without any hard coding.

To use all the register addresses without typing them in, I use the statement:

```
INCLUDE "HARDWARE/CUSTOM.I"
```

This file from the assembler headers gives all the register addresses as offsets from the custom structure.

Most of the registers are write only, those that can be read as well as written usually have two addresses, one for reading from (ending in "R") and one for writing to (ending in "W"). A strobe register is like a trigger, if one of these is accessed, a one time action can occur in the chip.

The Copper

The Copper, or co-processor, can change the contents of some registers at certain screen positions. The Copper has a program called a Copper list that is stored in memory and executed command by command, at the same time as the main processor. The Copper can divide the screen into different regions with different colour lists or different resolutions.

Up to now we have done this by defining a View and its ViewPorts, but ViewPorts consist mainly of sets of instructions for the Copper. Screens and Windows are easier to use than Graphics Primitives, but give you less freedom. In the same way setting up your own Copper lists is more difficult than using a ViewPort structure and loading a View, but allows more versatility.

For example, a ViewPort has one colour list throughout, but a Copper list allows the list of colours to change with the screen position. I have also seen Copper lists used to create a very impressive parallax scroll!

List building

The Copper has only three different commands.

1. The MOVE command writes an immediate value into a custom chip register. This command always has a zero in bit 0 of the first command word, because the register addresses are always even.
2. The WAIT command waits until the electron beam has reached a certain screen position. It is indicated by a one in bit 0 of the first command word, and an zero in bit 0 of the second. If the electron beam has already passed the specified position, there is no waiting.
3. The SKIP command skips the next command if the beam has already reached a certain position, making conditional branching possible. It is identical to the WAIT command except that bit 0 of the second command word is set instead of clear.

There is a bit in the interrupt registers for the Copper interrupt.

This interrupt can tell the processor that a certain screen position has been reached. The last command on a Copper list WAITs for an impossible beam position, ending the Copper list processing until a new list is started.

Here is a simple copper list to change the background colour from black to dark blue after the first 16 lines:

```
CListStart:
 dc.w   color,$0000
 ;put black into background colour
 dc.w   $100f,$fffe
 ;wait until beam reaches line 16
 dc.w   color,$0001
 ;put dark blue into background colour
 dc.w   $ffff,$fffe
 ;beam never gets to this position
```

Getting started

The copper has its own DMA channel, and takes precedence over the blitter and 68000. If the COPEN bit (bit seven) in the DMACON register is cleared, the copper does not execute any more commands. If the bit is set, the Copper starts its program execution at the address in its program counter.

The DMA register bits can only be set or cleared. If bit 15 is set, all the other set bits in in the data word are also to be set. If bit 15 is clear all the set bits in the data word are to be cleared. Other bits in the DMA register used in the program are:

```
BPLEN - bit 8 - bit plane DMA - bit 8
BLTEN - bit 6 - blitter DMA - bit 6
SPREN - bit 5 - sprite DMA - bit 5
DMAEN - bit 9 - DMA enable for bits 0 to 8
```

The Copper uses an internal program counter to point to the current command. The COP1LC registers contain the address of the copper list. The strobe COPJMP1 register is used to trigger the Copper to start at this address.

```
 lea      _custom,a5
 move.w  #$03a0,dmacon(a5)
  ;disable copper,sprite and bit plane DMA
move.l  CListAddr,cop1lc(a5)
   ;put copper list address in register
 clr.w   copjmp1(a5)
  ;trigger cooper activity
 move.w  #$8280,dmacon(a5)
 ;enable copper DMA
```

For the Amiga to access the Copper list, the list has to be in chip memory in the same way as rasters and sound wave data. For my program to run on an Amiga with extended memory, I have to make sure that the data is in the right place. This is done by allocating chip memory for the copper list, and copying the data into this memory.

Do not disturb

When a program is accessing the registers directly, it is expected to take over the Amiga for the duration. I do not want the Amiga switching tasks during the this part of the program so I use the Exec Library routine, Forbid(), before I start writing to the registers. After that part of the program is over I use the Exec Library routine, Permit(), to permit the Amiga to start multi-tasking again.

Tidying up

In earlier programs the old view address was saved, and loaded again when the program ended. This time most of the view was left alone, but with the sprites and bitplanes disabled. The old display can be replaced by enabling the sprites and bitplanes, and putting the old Copper list in place.

The old Copper list address is stored in the member gb_copinit on the GfxBase structure.

```
move.l   graphicsbase,a4
move.l   gb_copinit(a4),cop1lc(a5)
 ;put old copper list in register
move.w   #$83e0,dmacon(a5)
 ;enable all DMA
```

Blue stripes again

The file, copper.a, on the support disk is the one and only source code file for the program, copper. I have not used the underscore option for assembly as I am not linking to a C source code file this time. The program starts by opening the graphics library and allocates some chip memory.

A Copper list that gradually changes the background colour from black to light blue is copied into this chip memory. The copper DMA is disabled, then enabled again after the new copper list is put in place and triggered. The display of tasteful horizontal blue stripes remains on the screen until a joystick fire button is pressed. (My old faithful joystick routine, playsig, makes yet another appearance.) The old Copper list is brought back, the memory freed, and the program exits.

COMING SOON... My next few Almanac pages will be devoted to sound production on the Amiga. The Machine Code page of the Almanac will be amalgamated with the Code Clinic page in the magazine. The support disk will contain both C and Assembler source code, fully documented, as before.

Octa MEDley

Version 2 of Teijo Kinnunen's acclaimed OctaMed has just been released. Jason Holborn took it for a spin

The standard of Amiga PD software is exceptionally high, but it may surprise you to learn that in certain cases, some Amiga PD is actually better than its commercial counterparts. Take for example Timm Martin's acclaimed SID utility. Despite the fact that SID is a shareware product, it is still by far the best directory utility available.

There are PD music utilities which also fall into this category. Most notable among these is Teijo Kinnunen's MED, a quite excellent SoundTracker clone which could teach many commercial programs a thing or two, and which has quickly become the de facto standard in Amiga music composition. You'll find MED being used extensively by professional programmers and musicians alike for game soundtrack composition, sample sequencing and a lot more.

Commercial composer

Realising there is money to be made from MED, Teijo set to work in an attempt to produce a commercial release of the program. Little more than a few months later, OctaMED was born. Combining the best features of MED with a few tricks of its own, OctaMED sold like hot cakes. Now, a few months after the release of the original, OctaMED version 2 is here. Selling for just £20, not only is OctaMED 2 the best Amiga sound chip composer available, it's also the cheapest.

For those of you who haven't had the good fortune to use OctaMED, it's a powerful Sound Tracker clone with one distinct advantage over the competition. Instead of being restricted to the usual four channels of sound, OctaMED can play a maximum of eight channels simultaneously. In reality, the Amiga hardware only supports four channels, but Teijo has got around this with a combination of some clever programming and devious thinking.

Grid and bear it

One the whole, eight channel sound works well, but there is an inevitable degradation in sound quality. Octalyzer, the only other eight channel Amiga sequencer, was particularly bad for this, but Teijo seems to have reduced the problem to a bare minimum within OctaMED 2, allowing you to create eight channel compositions which sound almost as good as four channel tunes. What loss in sound quality does appear is more than made up for by those extra four channels of sound.

Like all Sound Tracker clones, OctaMED uses the now familiar grid-like editing system pioneered by the original Sound Tracker. It's probably the most unmusical editing system you're likely to find within a music package, but it does the job. By simply entering values into a vertical event list, you can make OctaMED trigger samples at a predetermined time. In reality, it's a little like programming a drum machine, where each set of eight events represents a bar. Obviously this depends heavily on the time signature of the piece, but you'll find yourself knocking out tunes in no time at all.

Sounds complicated? Well, it isn't really, but things are made slightly worse by the fact that OctaMED is pattern-based. Instead of being able to compose your tunes from beginning to end within a single set of events, you're forced to plan your music into discrete patterns which must be pulled together to form the final tune. Pattern-based composition takes some getting used to but– if used correctly – can be easier than the kind of linear sequencing you'll find in Midi sequencers like Music-X.

Score option

One feature new to OctaMED 2 is score editing, which allows you to produce patterns using the aged old system of placing notes on a stave. If you've ever used a program like Electronic Arts' Deluxe Music or Aegis' Sonix, then you'll feel instantly at home. Not only that, but the inclusion of a score editor makes the task of entering music from a printed score far easier for the beginner.

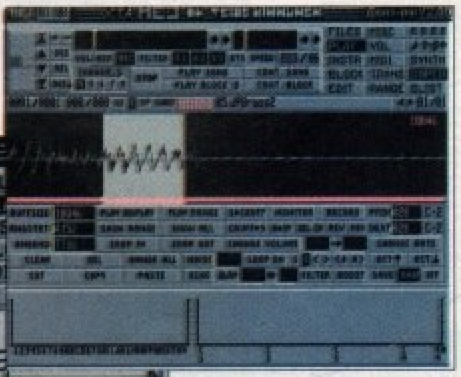
Although OctaMED supports Midi, it was primarily designed as a sound chip sequencer. It can use two types of Amiga-generated instruments – raw samples and "synthesised" sounds created using OctaMED's synthesiser module. Obviously sampled instruments will sound the best, but they have one major disadvantage – they gobble large amounts of RAM. Synthesised instruments take up only a few byes of RAM, so it's often worth trying to create a synthesised version of a sampled instrument before you devote yourself to one or the other.

That's not to say synthesised sounds are a poor substitute. If you're into those lovely squelchy analogue sounds made famous by such classic synths as the Moog and the OSCar, you'll love the sounds this powerful module can create. With the popularity of such styles of music as Acid House, I can see this module being particular popular.

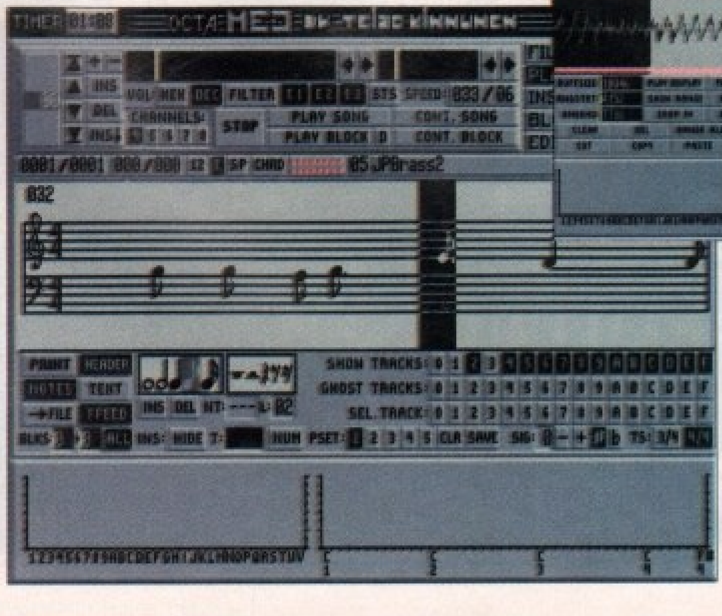
Even sample-based instruments can be manipulated within OctaMED thanks to its built in sample editor. In true AudioMaster fashion, the instrument's waveform is displayed graphically allowing you to cut, copy and paste sections of sample to your heart's delight. You can also carry out some quite advanced editing operations such as adding echo to a sample, reversing it, mixing two samples together and a lot more besides. If you own your own sampler, you can even grab samples directly into the program!

Having already used several commercial sound chip sequencers, I must admit I was very impressed by OctaMED. It doesn't quite offer the level of control over compositions that something like Demonware's TFMX can offer, but what it does offer should be more than enough for most people's needs. Author Teijo Kinnunen has managed to produce a music composition system comprehensive enough for the hardened music pro but easy enough to use for even the greenest of users.

For the price, OctaMED represents one of the few real bargains available for the Amiga. Whether you're producing Amiga music for profit or for fun, OctaMED is the tool that you should be using. Forget Sound Tracker, forget TFMX and Quartet – buy yourself a copy of OctaMED now.



AudioMaster 3 it isn't, but OctaMED's Sample Editor is powerful enough for most sample editing operations



New to version 2 of OctaMED is a powerful score editor which allows you to create patterns by placing notes onto a stave

The right route!

Peter Hickman guides you through the twists and turns of adding a maze to last month's game

But first... A new AS magazine specifically for AMOS users is launched at the end of October. Called *All About AMOS* it covers topics for beginners and advanced programmers ranging from simple AMOS 3D tutorials to extending AMOS through Assembler and C. It's put together by me with a lot of help from people like Colin White, Sandra Sharkey, Gary Symons, Len Tucker and Aaron Fothergill. If you are interested in the mag, drop me a line at *All About AMOS*, 36 Cleverly Drive, Wormholt Road, London W12 0LZ – remembering to enclose an SAE – and I'll zip you some more detailed info.

The game

Last month we saw how to get the good guy under joystick control and how to make the bad guy follow him. This month we will take a look at how to put a maze up on the screen.

OK, if you look at the screenshot on this page you should spot a nice picture of some maze blocks. In fact there are eight in total, four corners, two straight pieces, a small blob thing and a collectable pill (was Pacman a junkie?).

Why use blocks to build up a maze? The answer is simple – flexibility. By using blocks we can generate lots of different mazes using up only a fraction of the memory that a picture would take up.

If you take another look at the picture of the blocks you will notice they have numbers underneath. These will be used to build up our mazes. For example to build up a simple border we would use the following data:

```
DATA "12222222222222222223"
DATA "4                  4"
DATA "4                  4"
DATA "4                  4"
DATA "4                  4"
DATA "4                  4"
DATA "4                  4"
DATA "4                  4"
DATA "4                  4"
DATA "4                  4"
DATA "4                  4"
DATA "52222222222222222226"
```

The number one represents the top left-hand corner and the number six represents the bottom-right.

To display this onscreen requires a little more work. The first thing to do is to dimension an array to hold the maze data. As each block is 16x16 pixels our maze can only be made up of 20 blocks across and 12 blocks down. Because we are going to hold the block numbers in a string array we only need to dimension it to eleven elements:

```
Dim MAZE$(11)
```

The next step is to open up a lowres screen and clear it ready for drawing:

```
Screen Open 0,320,200,16,Lowres
Flash Off
Curs Off
Cls 0
Get Icon Palette
```

I have already prepared an icon bank for you on the CoverDisk which must be loaded into this listing before it will work:

```
Load "MAZE_ICONS.ABK"
```

Things start to get a little more complex now. First we must read in a line of our maze data:

```
For LOP=0 To 11
Read MAZE$(LOP)
```

Next we have to look at each part of that string to find out what maze block we would like to position on the screen at the next point:

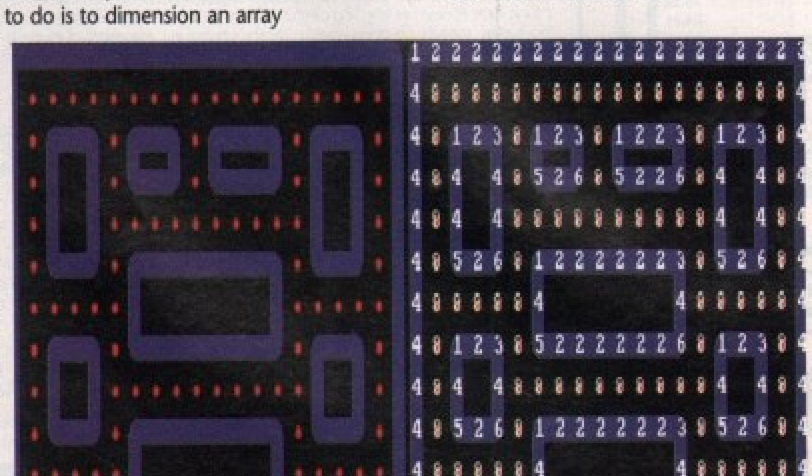
```
For LOP2=0 To 19
BLOCK=Val(Mid$(MAZE$(LOP),LOP2+1,1))
```

I always like to be careful when writing something like this. It is very easy to mistype a character so it is always worth putting a check in for strange values. Using this method we can automatically generate spaces in the maze if we want them whilst avoiding any error messages which AMOS would throw up if we tried to display an icon that did not exist:

```
If BLOCK>0 and BLOCK<9
Paste Icon LOP2*16,LOP*16,BLOCK
End If
Next LOP2
Next LOP
```

The maze!!

```
Data "12222222222222222223"
Data "48888888888888888884"
Data "48123812381223812384"
Data "484 485268522684 484"
Data "484 488888888884 484"
Data "48526812222223852684"
Data "4888884      4888884"
Data "48123852222226812384"
Data "484 488888888884 484"
Data "48526812222223852684"
Data "4888884      4888884"
Data "5222226      5222226"
```



The maze with its array data overlaid

Emmm... What next? Well, it's a bit of a surprise actually. The method I have just showed you to draw the maze screens is OK, but we need a quick way to look at the maze shape to find out where the blocks are.

This way we can control the movement of any creatures we decide to put into the maze without resorting to slow and complex collision detection commands.

So we will now put all of the data needed to create a maze into an AMOS memory bank which will be 240 bytes long (20 blocks wide x 12 blocks tall):

```
Reserve As Work 10,240
```

We now have to set up that funky screen and load those icons again:

```
Screen Open 0,320,200,16,Lowres
Flash Off
Curs Off
Cls 0
Get Icon Palette
Load "MAZE_ICONS.ABK"
```

This time we will read the data into memory bank 10 which we reserved earlier:

```
For LOP=0 To 11
Read MAZE$
For LOP2=0 To 20

BLOCK=Val(Mid$(MAZE$,LOP2+1,1))
```

Take note of the formula that is used to calculate the position of each block – we will use a slightly adapted version of this for collision detection:

```
POSITION=Start(10)+(LOP*20)+LOP2
Poke POSITION,BLOCK
Next LOP2
Next LOP
```

Once that is stored we can draw the screen by reading the data.

Simple formula time! Next month when we start to move our pacman around the maze, and will need a routine to make sure it does not career into any walls. We can find this out by constantly keeping a track of the position of our pacman and then using the following formulae to see if any walls block its path:

```
UP=((Y-1)*20)+X
DOWN=((Y+1)*20)+X
LEFT=(Y*20)+(X-1)
RIGHT=(Y*20)+(X+1)
```

If that seems a little bit confusing don't worry, everything will become as clear as mud (sorry crystal) the next time I am here!

Dynamic menus

Margaret Stanger makes fonts the chef's speciality

Amiga Computing's Code Clinic brings you a dynamic menu which uses the Menu structure as a font requester. It is possible to read all the available fonts from the fonts directory and put the font names into its menuitems and heights into its subitems. This means that a font can be chosen from the menu without its name or size being hard coded in the program.

Loads of memory

I set up a menu called "LOAD FONT" after the Style Menu. This was the last menu on the menu bar, and I set the first menu item to NULL, in case there were no fonts in the directory. Assuming a maximum of 70 different size and font name combinations, I set up my arrays:

- Twenty MenuItems, one for each font name
- An array of 20 strings of 30 characters for the font names
- Fifty SubItems, one for each font size or number
- An array of 50 strings of 4 characters for the font numbers
- Seventy IntuiTexts, one for each MenuItem or SubItem

I allocated memory of 2,000 bytes for the AvailFontsHeader structure. The amount of memory needed was hard coded, but could be adjusted if more or fewer fonts were expected.

Availability

With the availfonts() routine in menugad.c I used the Diskfont Library AvailFonts command to read in the data from the available disk fonts on the boot disk. If there were more than the maximum number of items, I set the number of items to the maximum.

For each item I derived the Ascii character string for the height of the font, and stored it in the availfontnumber array with the number of the MenuItem. An IntuiText structure was set up for this subitem, with the IText pointing to the correct place in the availfontnumber array. I filled in a SubItem structure for each item, increasing the vertical start position each time, and linking each SubItem to the next one.

Is the name the same?

If the name of the font differed from the previous name, I stored the name of the new font in the availfontname array, but without the file extension ".font" as it was not needed for the menu text. I set up an IntuiText structure pointing to the name in the array, and a MenuItem structure with increasing vertical offset, and a link to the next MenuItem.

The name of the font was stored, for comparison next time, and there were a couple of adjustments to be made to the latest two SubItems. The previous SubItem was now the last one for the previous font name, and had to have its NextItem made NULL. The current SubItem would be the first one for the new MenuItem and have a vertical offset of -1.

Last of the line

For the very last item, the SubItem and the MenuItem needed their NextItem pointers set to NULL. The font Menu (Menu2) could then be linked to the first MenuItem, all in place for when the MenuStrip was set. The current default font name was saved, and the memory for the AVailFontsHeader structure freed.

The display was set up with a second window to display the text in, this window has its own BitMap and RastPort, separate from the main screen. This enabled me to keep the Menu display in the default topaz font, independent of the fancy font text display. A Menu can look very untidy if its text is in Gothic script.

Retrieval

If a MenuItem or SubItem was chosen from the LOADFONTS Menu, I used the findfonts(object) routine in menugad.c to extract the name and size of the font. First I checked for SubItem selection – if none were selected the routine would end. Otherwise the height of the font was found from its place in the availfontnumber array.

The number of the MenuItem was also found from the availfontnumber array, this could be used to find the font name from the availfontname array. I added the ".font" extension to the name. This data was used as input to the changefonts() routine where the TextAttr structure would need the name and height of the Disk Font before it could attempt to load the font, (or nearest available font) from disk.

The changefonts routine attached the font to the Text Window RastPort, and re-displayed the text string in the chosen font. All that was necessary then was for the font name to be stored for comparison next time, and for the check marks to be adjusted for the selected items. It would be possible to insert a requester here to make sure that the user really wants to change the font – if he decides to stay with the current fonts the check marks can be left as they are.

Portability

As long as the diskfont library and the fonts directory are in their place on your Workbench disk, this month's support program will display any available fonts on the menu and enable you to select one of them. Unfortunately, there wasn't enough space on the disk this month for these files, so you'll have to transfer the program to a disk which has them.

For a really massive font, more than 30 pixels high, the text window would need to be bigger. The routines for putting the data in the menu structures, and selecting a font could be added to most programs. I have only allowed for up to 20 different font names, and up to 50 sizes, but the array sizes could be adjusted to fit the expected font data.

What the program does

The program on the support disk demonstrates a dynamic menu with menu items for the fonts and sub items for all their sizes. The program exits with a message if the diskfont library fails to open, this usually happens if the file df0:libs/diskfont.library is absent. The program exits with a message if the directory df0:fonts is missing. An empty fonts directory will not cause the program to exit or fall over.

A main window is opened with one gadget, so that you can quit when you get bored with the program. The text window for the text display is fairly small, but could be made any size. There is a menu offering three mutually exclusive text styles, a text string is re-displayed each time the style or font is changed. The second menu has an item for each font in the fonts directory on the boot disc.

The subitems are the sizes available in the chosen font. When a font and size are chosen, the menuitems and subitems are marked,and the text string is displayed in the chosen font if it is still there. If the font is not available, a message will be on the calling screen, and the text will not change.

There should be the executable code, and source for the main program and for the gadgets, all in the code clinic directory. The diskfont library should be in the libs directory, and the garnet and sapphire fonts in the fonts directory, but there wasn't enough space available on the support disk.

COMING SOON: The next few Code Clinics will be devoted to sound production on the Amiga. The Machine Code page of Almanac will be amalgamated with the Code Clinic page in the magazine. The support disk will contain both C and Assembler source code, fully documented, as before.

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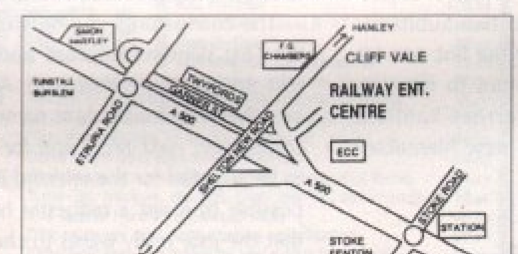
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Scaling clip art

Ben Pointer tells you how to produce better resolution bitmaps

For the last couple of issues or so this DTP page has been discussing general publishing techniques – it's time we got back to Amiga specifics. This month we're going to look at bitmapped black and white clip art and how to get the best out of it.

First we need to understand what "bitmapped" clip art is. Usually it is artwork created by scanning a picture or drawing, although it can also be something you have drawn using a paint package. It is saved in the standard IFF ILBM format, and no matter how big or small the picture is, its resolution will be 75 dots per inch. This number is important. Remember it.

Now you don't need me to tell you that 75 dpi is not a very high resolution. Anything output at 75 dpi will have jagged lines all over the place and look extremely amateur. But by using DTP software there is a way of increasing the bitmap's resolution so that it gets printed at the best resolution your printer can manage. I'm talking about scaling.

Scaling not only changes the size of the bitmap, it changes its resolution. I'll run through a simple example using round figures to show you what I mean. Let's say we're using a black and white bitmap gleaned from a clip art disk. It's a normal 640 by 512 hi-res screen. We want to output this picture to our Deskjet printer at its maximum resolution of 300 dpi.

So we know that the bitmap has a resolution of 75 dots per inch and the picture is 640 dots (or pixels) wide. Converting the dots to inches (640/75) gives us a measurement of just over 8.5 inches. That's how wide the picture would be if we printed it at its original resolution. If we scale the picture down by half, changing its width to about 4.25 inches, we've doubled its resolution to 150 dpi because we have the same number of dots in half the width. Scale it by half again, making the bitmap only 25 per cent as big as the original, and we've increased its resolution to 300 dpi.

The price we've paid is size. To output the bitmap at 300 dots per inch we've had to scale it so that it is only about two inches wide. We can't have it four inches wide and 300 dpi, nor three inches, nor anything else – it has to be two inches if we want to output it at 300 dpi.

Scanners

OK, those were approximate measurements. In practice the numbers are slightly different. The way to get larger high resolution bitmaps into your documents is to use a scanner. Hand scanners are typically about four inches wide and scan pictures in at a maximum of 400 dots per inch – so a maximum width scan would be about 4 x 400 or 1600 pixels wide.

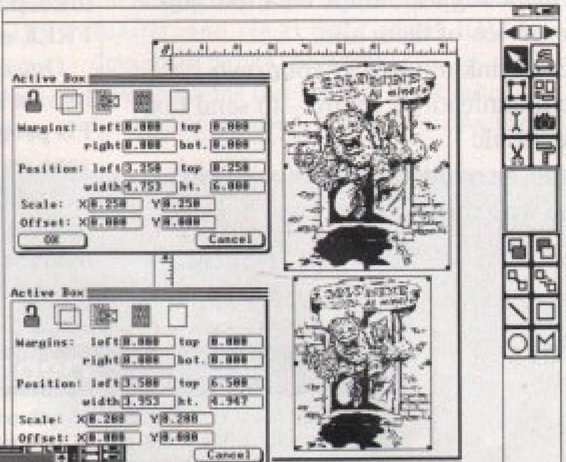
It gets a bit confusing now. Despite being scanned in at 400 dpi, the graphics are still saved as IFF bitmaps, which have a constant resolution of 75 dpi. So if we imported our scan into a DTP package, at its bitmap resolution it would be 1600 / 75 = 21.3 inches wide. Scale it down by a quarter (21.3 divided by four) and we get a 300 dpi picture that is just over five inches wide.

But what if our printer can't do 300 dpi? What if it's 360 dpi, as most 24-pin dot matrix printers are these days? The answer is that we have to scale the bitmap down a bit more. To arrive at 300 dpi we scaled by 25 per cent. Mathematically we arrived at that figure by multiplying 75 by 4 to get 300. The four is the important bit because it is this number we divide into 100 to get our scaling percentage – 100 divided by 4 = 25. OK?

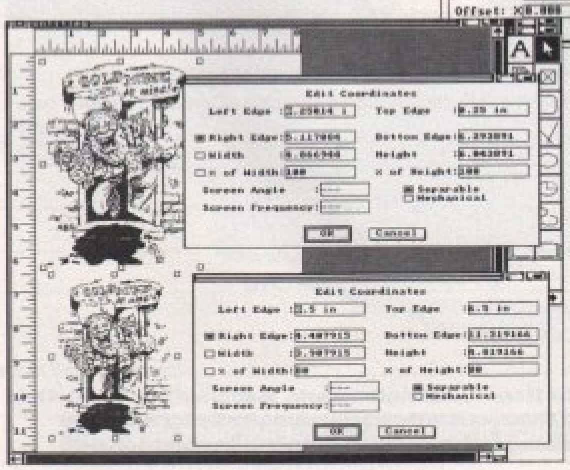
So to get the scaling percentage for 360 dpi we first have to work out what to multiply 75 by to arrive at 360. This we do by dividing 360 by 75, which gives us a figure of 4.8. Dividing 100 by 4.8 gives us a scaling percentage of 20.8 to one decimal place.

Now I've only been talking about width so far, but everything is the same for height provided the bitmap is at least 640 by 512 pixels, or an interlaced hi-res screen in other words. If it's not interlaced (256 pixels high), then either double the height (or Y) scaling to compensate, or use a utility to alter the bitmap's resolution. DPaint will do it nicely; simply choose the Picture/Screen Format menu option and select the bottom button, 640 x 512. When it asks you if you want the image stretched to fill the page, say Yes – otherwise you'll end up with a squashed looking picture.

These scaling techniques apply to all Amiga bitmapped IFF ILBMs, by the way, not just black and white clip art. The thing to remember is that when scaling to the maximum resolution of your printer you are not losing any dots from the graphic – each dot is merely getting smaller and smaller. It may begin to look a bit "sketchy" onscreen, but the printout will be fine.



With PageSetter II (shown) or ProPage you enter scaling figures as fractions of one, so 25 percent is 0.25 and 20.8 per cent is 0.208



PageStream is weird. After importing it appears to automatically scale very large bitmaps (i.e. scans) by 25 per cent and then claims to be displaying it at 100 per cent (above). This is handy if you have a 300 dpi printer, but for 360 dpi printers you need to reduce by another 20 per cent (below) to get the correct output resolution

Scaled down

However, if you scale to above the maximum resolution of your printer, reduce to 15 per cent say, then the printer has to start removing dots from the picture to be able to print it that small. Which dots it removes is in the lap of the Gods – well, actually it's in the lap of whoever built the printer, but Sod's Law says it will be exactly those dots you don't want it to remove. So if you've got a 300 dpi printer treat 25 per cent as a maximum scaling figure, and 20.8 per cent for a 360 dpi printer.

If your printer has an uneven resolution – most nine pins are 240 by 144 dpi, for example – then you have to take the lowest of those figures as your maximum resolution. That's your homework for this month. The answer is below, upside down. No cheating!

To get 144 dpi, scale by 52 per cent



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Words and Pictures

Jolyon Ralph cross examines history and messes with Madonna...

Commodore's A690 CDTV drive for the Amiga 500 has been delayed again, and now will not be available in quantity until after Christmas. It was hoped that it would be ready for launch by the World of Commodore show, but now it looks more likely that the launch will be at the CES show in Las Vegas at the beginning of January.

What has now been confirmed is that the A690 will have a through port, allowing you to connect an A590 or similar hard disk to your Amiga at the same time as the CD ROM. However, a lot of CDTV software will not work unless your Amiga has been modified to use 1Mb of chip memory.

There are now well over fifty CDTV titles available, and here is a round-up of some which I have used recently.

Knowledge

American company Xiphias have already produced four CDTV titles – I looked at the Timetable of History – Science and Innovation. This tries to cover the history of science and technology, from the beginning of time to the beginning of 1991, and that is no small task, not even with 600Mb of storage to play with.

There are over 6,200 entries, and although there is the odd inevitable mistake – it claims that the Amiga was launched in 1987, it was launched in 1985. The user interface is lovely, it really shows how good a user interface can be made if a little effort is put in, and is in a completely different league to the awful Hutchinson's Encyclopedia reviewed last month.

Every word is hot-linked, for example pick the erroneous Amiga entry I referred to earlier and it says "Commodore introduces the Amiga". Click on Commodore and a list of all entries that contain the word are shown. They include obvious entries, like the launch of the Commodore PET in 1977, the VIC-20 in 1981 and the Commodore 64 in 1982.

The first entry however is entitled "1932: Miss America X Travels". Clicking on this entry gives us more information, "Commodore Garwood breaks the speed record on water by travelling at two miles a minute in his four-engined boat, Miss America X." Bet you never knew that.

The Xiphias Timetable titles can rightfully claim a first. Whereas quite a few CDTV titles are converted from previously published books, the Timetable series will be published in paper form in 1992, after the CDTV versions.

Art & leisure?

On the "art and leisure" side of CDTV this month we have "Advanced Military Systems", by Dominion Software and Design, USA. Quite what these modern military machines have to do with either art or leisure is not explained. This title gives us a brief audio description and lots of pretty pictures of several of the worlds favourite killing machines.

Each of them has its own music too, there is some Top Gun style rock music to go along with the US F-15 Eagle fighter, and plenty of sinister music to go along with the Soviet tanks and aircraft. The picture quality is excellent, the HAM interlace images have to be some of the best on the Amiga, they were digitised with the Video Toaster, and are as good as any HAM-E or Colourburst picture I have seen.

Although the user interface is not quite up to the Xiphias standard, it is quite usable, except that some of the menus judder when connected to a television or composite monitor for no apparent reason. It appears to be a fault with the modulator design rather than with this title.

Jellybean

The last of this month's CDTV titles is CD-Remix by Microdeal, the only UK disk reviewed this month. CD Remix, in the words from the back of the box, lets you "take your favourite Music CD and resequence pieces of it to make your own extended dance tracks or personal remixes." It's a great idea, but unfortunately it doesn't work very well.

Firstly the user control is awful, filenames for samples have to be entered a letter at a time in the same way as names are entered in game high-score tables. Why a file requester couldn't have been used is beyond me. The other faults are mainly due to the seek time on CDs. You just cannot jump from one part of a song to another without a noticeable gap.

This is not Microdeal's fault, and considering the problems they have done quite well in trying to get around this. What is Microdeal's fault is the stupid design of the product. You cannot start a CD track and play a sample in the middle of it. You can play the first half, stop the CD, play the sample and then start the CD again. You get a horrible glitch and it sounds awful.

Just to make sure it wasn't me, I borrowed the Madonna CD used for the demonstration files on the disk. These sounded awful. If this was the best the people who wrote the program could do, then I don't hold up much hope for it. Don't waste your money on CD-Remix.



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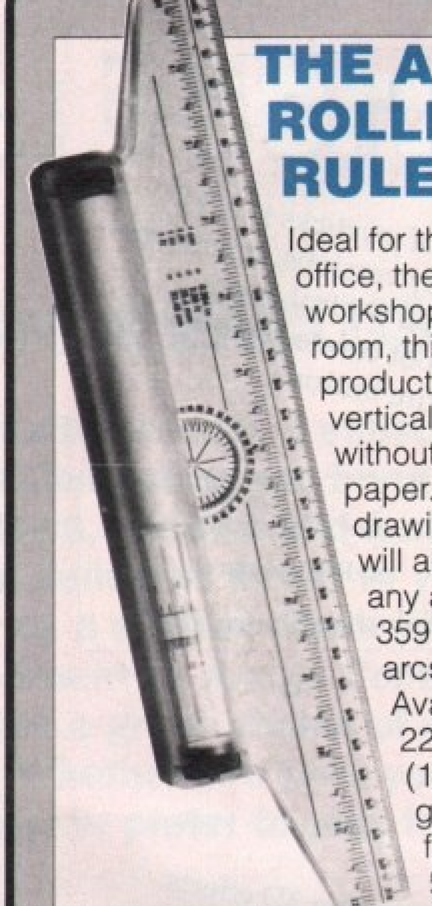
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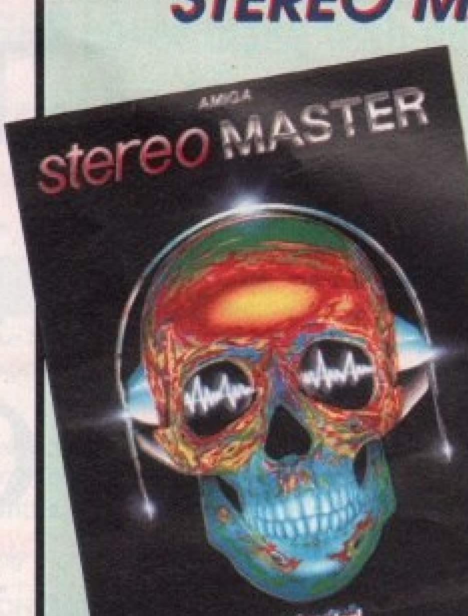
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The ability to design custom icons as standard is virtually unique to computers in the Amiga's class. The WorkStation turns your Amiga into a comprehensive design studio, providing a wide range of graphic tools that can make icon creation child's play.

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This handy gadget helps fight the war against those bothersome viruses and even stops the irritating 'click' of an empty Amiga drive.

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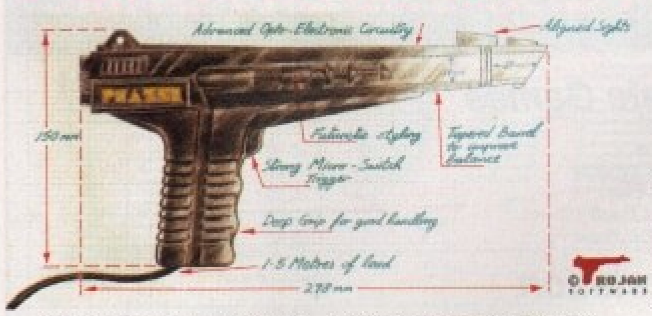
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Reader offers

Please use the Order Form on Page 208

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AMIGA COMPUTING APPROVED READING

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FOR THE AMIGA

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ENTERTAINMENT XTRA

SELL-THRU' • SATELLITE • CINEMA

Put down your joystick, switch off your monitor and relax with some extra entertainment, courtesy of *Amiga Computing*'s very own critic – Antony Purvis

Off the shelf

F/X: MURDER BY ILLUSION (15)

RCA/Columbia £7.99

A big-time gangland operator offers to give evidence against some other bigger-time gangland operators, thereby guaranteeing a mob contract on his head. What better way to protect him than to convince everyone that he's already dead?

Bryan Brown plays Rollie Tyler, a special effects expert called in to stage a fake assassination in order that the word can spread of the witness's untimely death. Once involved in the set up, Rollie soon finds out that part of the American justice system isn't on his side, and soon Rollie himself becomes the target.

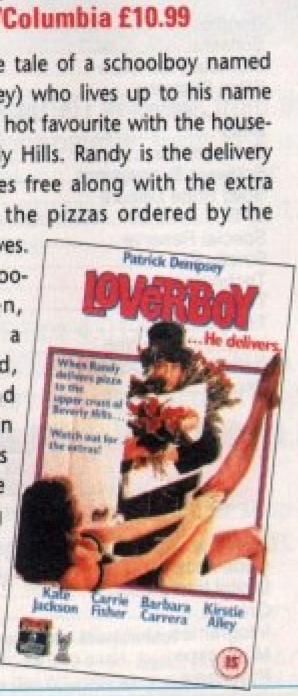
When it hit the cinemas in 1985, F/X didn't smash any box office records or do very well. When released on video shortly after, it became a huge and very popular title. The film itself is superbly executed. Around every corner is an inventive twist to the plot.

Superb acting, a gripping plot, great special effects, and real entertainment make F/X: Murder By Illusion an excellent film that must be seen. It is currently doing the rounds in UK cinemas too, and is well worth a look...

LOVERBOY (15)

RCA/Columbia £10.99

Loverboy is the tale of a schoolboy named Randy (Dempsey) who lives up to his name by becoming a hot favourite with the housewives of Beverly Hills. Randy is the delivery boy who comes free along with the extra anchovies on the pizzas ordered by the lonely housewives.

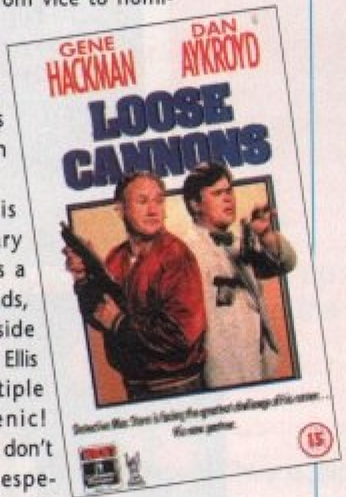


All about wooing women, Loverboy is a high spirited, fast paced and very funny teen comedy that's well worth the £10.99 asking price. Who knows, you might learn something...

LOOSE CANNONS (15)

RCA/Columbia £10.99

Gene Hackman plays Mac Stern, a veteran cop in Washington DC. After a fire at his apartment, he moves into his station wagon. At the same time his superiors have transferred him from vice to homicide and assigned him a new partner – Ellis Fielding. (Dan Aykroyd)



But Ellis is no ordinary cop. He has a host of friends, all living inside his head, for Ellis is a multiple schizophrenic! The two just don't get along, especially when Ellis (and company) wreck Mac's prized station wagon during the course of a high-speed chase.

Gene Hackman fits into the overall chaos surprisingly well and Dan Aykroyd, of course, is perfect for the role, carrying off the multiple personalities with great style. It's fast, furious, and very funny.

VICE VERSA

RCA/Columbia £7.99

One thing that Marshall Seymour wasn't expecting in his busy executive lifestyle was to find himself spending his day in his 11-year old son's body. His son (Fred Savage) wishes they could swap places. Marshall agrees, and thanks to a dodgy magic skull thing from Thailand, that's just what happens.

Vice Versa was one of the countless body swap movies that were so popular three years ago. Of course, there's only so far that a point can be stretched, and Vice Versa has many very obvious similarities to Tom Hank's Big. But originality aside, Vice Versa is a funny and sharply written film.

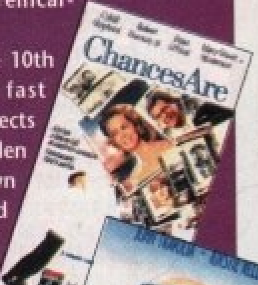
Judge Reinhold and Fred Savage are superbly cast, giving performances that must not be missed. Worth £7.99 of anyone's money.

Skylights

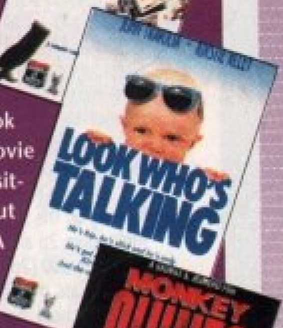
The pick of Sky's Movie channels in November

Those of you with access to the satellite movie channels have probably fallen out of the habit of actually buying movies on video. So to keep you happy, here's a quick guide to some of the entertainment high spots on Sky Movies Plus and The Movie Channel in November.

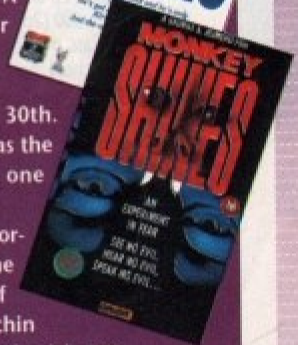
Look out for Chances Are, a romantic comedy starring Cybill Shepherd and Robert Downey Jnr. in which Downey plays Cybill's ex-husband who dies and is reincarnated.



Steven Seagal is Hard To Kill on the 10th and 19th of this month, providing fast action, spectacular stunts and great effects along the way. Lambada – The Forbidden Dance, or whatever it's called (!) is shown on the 2nd, 11th and 27th, and should go down well with any youthful types out there. Even if you're not into dancing this is worth a view.



Baby Mikey hits the small screen in Look Who's Talking, the classic baby talk movie that spawned a flop of a spin-off and a sitcom based around the idea. (Watch out for "Baby Talk" on Sky One.) A Stockbroker sells her soul to the devil for the promise of success in Limit Up this month, and David Puttnam's movie Memphis Belle gets an airing on the 30th. Worth watching if only to see how it was the Americans who won the war and no one else. Hmm.



Monkey Shines is a charming little horror movie that comes your way on the 4th, 16th, 21st and 30th. It's the tale of a disabled man who is given a capuchin monkey to assist him with his daily tasks. It's not long before it all turns rather sinister and the monkey becomes responsible for a number of deaths. Good stuff.

The Adventures of Baron Munchausen appears on the 1st, 9th, 24th and 28th, and those Fabulous Baker Boys pops up on November 6. Brothers Beau and Jeff Bridges star. Arnold Schwarzenegger (Uzi Nine Millimetre!) appears in The Running Man on November 17 – an essential one to watch there.

"Wierd" Al Yankovic, he of the many Michael Jackson spoof records such as "Eat It" and "Fat", appears in UHF on November 7th, 14th and 25th. Wierd Al plays George, given an American UHF TV station by his uncle. New programming such as "Ghandi II – The Punisher" and "Conan The Librarian" soon ensues. Patchy humour in places but not a bad film.

Honourable mention this month goes to Harlem Nights, on the 16th, 19th and 27th. Eddie Murphy and Richard Pryor star in a tale of 1918 speak-easies and gangsters. My opinion is that you won't like this (Hello readers, I feel I know you well already..). Watch out for the 116 uses of the f*** word, too.

ROCK LOBSTER

The Amiga Computing team chill out...

Cheap talk

We have been flooded with entries to our 76p competition from last month. Don't panic if you haven't sent your entry yet, the competition hasn't closed. We have just chosen some winners already – if you see what we mean!

Anyway here is what **Simon Bradwell** from Buxton would do with his 76p...

1 Drill a hole in a 10p piece and wear it as a trendy medallion (10p)
2 Buy a piece of bubblegum and chew it to look tough (2p)
3 Put some in the bank and wait for the interest to turn it into a million (14p)
4 Change some into Rubles and go for a holiday in Russia (5p)
5 Drop 5p down the back of the chair then while away many fun-filled hours searching for it (5p)
6 Balance six one pence pieces edge on edge to get into the record books (6p)
7 Put 20p into binoculars at the end of Blackpool pier to get a magnificent view of the pollution floating on the sea (20p)
8 Melt down 2p and turn it into a scale model of an Amiga 500 (2p)
9 Buy a glass of milk from Derbyshire County Council school meals service (6p)
10 Purchase a high quality pencil from "Partners" stationers (6p)

Team talk

You will probably have noticed that this is the December issue of AC

UK readers will start flicking through these pages during November, hence the lack of snow, sleigh bells and tinsel round the headlines.

If you are reading this in Australia, Poland or New Zealand it will very definitely be Christmas by now. The AC and Gamer teams would like to convey seasonal good wishes to each and every one of our overseas readers. We would also like to know where the Christmas cards are!

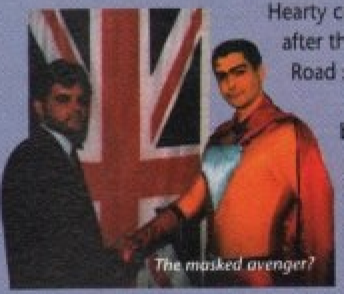
To put everyone in a good mood, we have a quaint party scene for our caption competition this month... This is no ordinary Christmas party. In fact, it's not a Christmas party at all!

Send your captions to: Oranges, Rock Lobster 43, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP



The Amiga Computing team get fruity...

Shop talk



The masked avenger?

Hearty congratulations to a major computer retailer after the recent opening of their Tottenham Court Road shop in London

The shop warming party went with a bang (literally) and the *AC* team was subjected to a truly unique presentation featuring breathtaking special effects and a cast of thousands.

Not surprisingly it has given us an idea for a competition. What we want you to do is guess who the retailer is and what their new corporate song is. To give you a little help we have published part of the original presentation script.

We have left the spelling mistakes intact to preserve an authentic sense of occasion.

"As you would have heard at the begining of this presentation we have a new corporate jingle, but as you would expect from a company pushing itself to a position of high profile like we are, this is no normal jingle. After overcoming the initial problems with copywrite on the original Shirley Bassey version an absolute fortune was spent bringing in a top record producer to re-create this James Bond theme in to an updated dance version.

The producer was Paul Witze who has worked with many top acts in the past including Bannanarama, Spandau Ballet, Black Box and Alison Moyet amongst others, and is now writing and producing his own material, and has already had a top three single last year called 'Touch Me'.

"This November our own single of the jingle is to be released by Virgin Records with enough hype promised to guarantee a top twenty position by Christmas, I don't see many computer firms doing that very often."

Send your entries to: Rough Cut!, Rock Lobster 43, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP.

Lobster laugh-in

Q. What's the difference between an Amiga 500 and a 500P?

A. Too many to list here

Next month's AMIGA COMPUTING

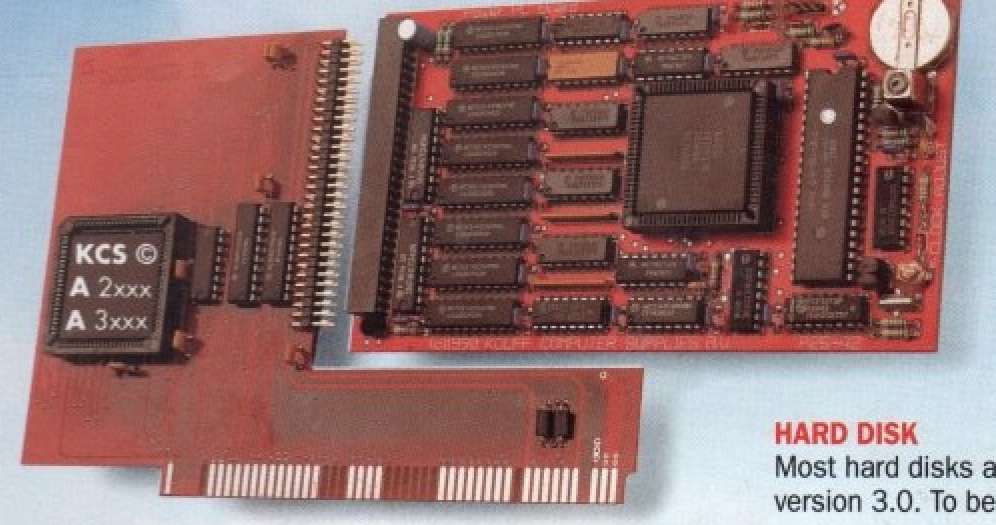
The next action packed instalment of *AC* will be in the shops on Thursday 5 December, 1991. You can't afford to miss it.

ADVERTISERS' INDEX

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Most computer games are first written for the PC and only some appear later on the Amiga. Why wait for the Amiga version when the PC version is already available (and usually cheaper)!

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for the Amiga 1500/2000/2500/3000



For the Amiga 500 (not P)

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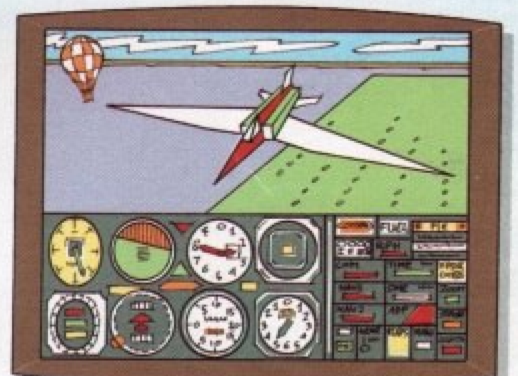
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For so little outlay the Power PC Board turns your Amiga into an up and running powerful PC, with no hidden costs. The cheapest PC in the world?!

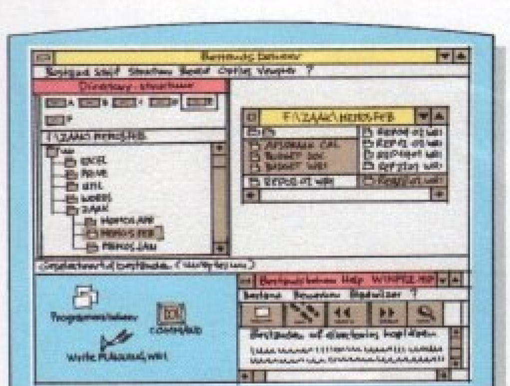
Run heavyweight professional PC software on your Amiga/PC



Microsoft flight simulator 4.0



VGA
Version 3.0 of our software (Nov/91) comes with VGA colour and mono option. EGA/VGA will work on all standard Amigas irrespective of which chip set you have.



Microsoft windows

EGA
Available (Nov/91) will work from the full EGA colour palette. Both EGA and VGA will work on a standard TV or monitor and in most cases without using interlace.

PRICE
Including MS-Dos 4.01/GW-Basic/Shell/Phoenix DOS-Help/1Mb on-board memory and clock in both modes.

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Or direct from Bitcon Devices

Some extra Goodies:
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